NATIONAL PETROLEUM NEWS

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Marland Presses Conservation Issue With Bill on Gas Waste in Oklahoma

CLEVELAND, Jan. 17

THE question of the oil industry's attitude on legislating the holding of gas pressure on oil sands, to prevent waste of the gas and also to provide a method for holding back output of flush oil pools, may be fought out in the hubbub of a short sesson of the Oklahoma state legislature.

This, instead of settling the matter first in dignified discussion and debate within the industry, as the American Petroleum Institute planned when it set up a committee on Waste of Gas a month ago at its meeting in Tulsa.

E. W. Marland, president of the Marland Oil Co., chairman of the Committee on Waste of Gas, disagreeing with the consensus of thought in the committee, has drawn a bill, which will probably be introduced in the state legislature this week, asking Oklahoma to force oil operators to hold gas pressure on their wells under all conditions.

The bill is a detailed statement of some 6000 words, which sets up how much gas per barrel of oil producers can take from an oil well, the conditions under which this amount can be taken, and declaring, as a means to bring this about, that all pipe lines taking gas from the fields are common carriers and must take from all producers alike.

Is Curtailment Measure

THE great importance to the oil industry of such a bill to limit gas waste by legislating against removing it from the sand with the oil is that it offers a practical method to curtail crude production in flush fields and to hold back the development of new pools until means is at hand to utilize the gas. The extent to which production of a pool would be curtailed would depend on how much back pressure was maintained against the flow of gas and oil. This could be changed as conditions warranted.

It is almost certain that Mr. Marland is concerned principally with the effect of such a measure in curtailing production. He told institute directors at Tulsa that such a law in Oklahoma as he proposed would curtail oil production about 20 per cent and allow the producer to get a price for his crude at which he could make money. He said it would not have any noticeable effect in advancing prices of petroleum products to the consumer.

Mr. Marland conferred in Washington Jan 17 with Secretary of the Interior Work, chairman of the Federal Oil Conservation Board, Dr. George Otis Smith, director of the Geological Survey, and others on his bill, urging that the secretary apply its provisions to oil fields on Indian lands in Oklahoma, which are under his jurisdiction.

May Try Other States

MR. MARLAND also stated that similar bills to prevent gas wastage would likely be introduced in the Texas and California legislatures before March 1.

Dr. Work said the oil board was in sympathy with the general principle of eliminating gas wastage as a conservation measure and took under advisement the suggestion that the bill proposed for Oklahoma be applied to Indian lands.

It was Mr. Marland who precipitated discussion of the Federal Oil Conservation Board's recommendations against gas waste at the Tulsa institute meeting. He brought to the meeting a paper he wanted to read urging the institute to ask Oklahoma to pass a law against allowing gas to escape from oil wells.

Sidetracked from discussion before a general meeting, the question of the institute's attitude towards the entire oil conservation report of the Federal Oil Board was taken up by directors, and two committees appointed, one to consider waste of gas. Mr. Marland was made chairman of this committee.

The committee held a meeting in New York right after the holidays. Mr. Marland brought to the meeting copy of the bill he now proposes to introduce in the Oklahoma legislature and a resolution putting the committee on record as endorsing state legislation to prevent gas waste.

Committee Passes Resolution

THE committee, desiring to temporize to give the industry as a whole opportunity to discuss the issue, changed the resolution somewhat. It put the institute on record as encouraging passage of appropriate state legislation to prevent gas waste and urged upon its members the need, through their local organizations, to help formulate and secure enactment of such laws. The resolution, however, kept away from specific mention of gas-oil ratios and methods to be followed.

The resolution is directed to the board of directors of the institute. President E. W. Clark said he would call a meeting of the board at as early a date as was practicable to consider what action it should take. It was desired to withhold definite action until the industry itself had had an opportunity to make its desires known in the matter.

Mr. Marland proposes to go ahead alone, however. He has not yet, so far as is known, asked the support of the Mid-Continent Oil & Gas Association, the organization of producers. This body, however, and producers in Oklahoma individually, whether desiring it or not, will be forced to take a hand, when the bill comes before the state body, or give the impression they have no interest in the matter, which is far from the case with every producer. Gas purchasing and transporting companies will also be affected. Small producers, for example, would have to make immediate investments in equipment to comply with the provisions of the bill, if it became law.

Gas-Oil Ratio Prescribed

THE gas-oil ratio, that is the amount of gas that can be taken from a well along with the oil, is placed at 500 cubic feet each 24 hours for every barrel of oil produced, which is believed by

many to be too low to allow a field to be developed efficiently.

Opinion of some oil men is that Mr. Marland has little chance of getting his bill passed, but that it will stir up considerable feeling. It is understood he plans to have the bill introduced as an administration measure; but the assembly is fighting the governor on several measures in this short term of 60 days, almost two weeks of which has already passed.

Important provisions of Mr. Marland's proposed bill, summarized are as follows:

Waste of gas is defined as (1) drowning of a gas sand with water or permitting the gas to escape into any other formation; (2) escape into the air of any quantity of dry gas from a gas sand except under certain specially noted provisions; (3) taking from any oil well a greater quantity of gas than that set forth in the gas-oil ratio prescribed for the field; (4) burning of natural gas except for heat, light or power purposes, or in making carbon black under prescribed conditions.

Gasoline Must Be Extracted

IN addition, natural gas is said to be wasted unless the gasoline content has been extracted, which would tend to hold back new fields until gasoline plants could be built. Special exemptions here may be secured where the gasoline content of the gas is too small to make its recovery practicable.

All operators, who must secure a license to drill every well, must shut in a well wherever gas is found until the gas can be used without waste. Special recommendations are given for control of gas while drilling through a gas sand. Meters must be installed and the flow of gas and oil recorded with a state commission.

Unless otherwise specified the gas-oil ratio in Oklahoma is to be 500 cubic feet of gas per 24 hours to each barrel of oil produced; that is pressure must be held on the well so that more than this amount of gas relative to the oil shall not escape. The State Corporation Commission is to prescribe the gas-oil ratio for individual pools. This gas of course is not to be flowed into the air, but must be put to some useful purpose as outlined in the bill.

Gas Lifts Exempted

GAS returned to the producing sand to build up the gas pressure cannot be produced in quantities exceeding the gas-oil ratio; but gas pumped into the well to allow the use of the gas-lift method of producing the well is not to be governed by any prescribed gas-oil ratio as this gas is used over and over again.

All companies transporting gas from the fields are to be common carriers and to take the gas without discrimination from all producers. The same applies to companies in the business of buying gas. Where production of gas in the field is in excess of pipe line capacity the company must take pro-rata from all its connections.

Not more than 25 per cent of the daily natural flow of any dry gas well may be taken from the well.

A special board is to be created, known as the Oklahoma Oil & Gas Conservation Board, made up of three members appointed by the governor who have had at least five years' experience in gas or oil production in the state, to advise with the state Corporation Commision on the carrying out of terms of the law.

A new state officer, the State Oil & Gas Conservation Agent, is created, to be appointed by the board to have supervision over oil and gas inspectors who shall see that provisions of the law are carried out in the fields. The number of inspectors is not prescribed. The Conservation Agent is to have one assistant appointed by the board, known as the Oil and Gas Engineer.

The agent, the engineer and inspectors are to be paid on the fee system. Fee for license to drill each well is to be $25; for inspection of each well in the state $1 annually; for plugging oil or gas wells $25 per day for each day required in plugging. Fifteen per cent of the fees go to the Agent, 10 per cent to the engineer and 75 per cent to be divided among the inspectors.

Violations of provisions of the bill submit the operator to fine of from $100 to $500 per day for each day's violation.

Coming Meetings

Oklahoma Oil Jobbers Association, The Huckins Hotel, Oklahoma City, Jan. 20, 21.

Independent Petroleum Marketers Association of the Middle Atlantic States, Philadelphia, Pa., Jan. 25.

Iowa Independent Oil Men's Association, Fort Des Moines Hotel, Des Moines, Ia., Feb. 2, 3.

North Dakota Petroleum Association, Waldorf Hotel, Fargo, N. D., Feb. 3, 4.

Michigan Independent Oil Men's Association, Detroit, Feb. 10, 11.

Illinois Petroleum Marketers' Association, Hotel Abraham Lincoln, Springfield, Ill., Feb. 16, 17.

Ohio Petroleum Marketers Association, Neil House, Columbus, O., Feb. 17, 18.

Ohio Gas & Oil Men's Association, Elks Home, Columbus, O., Mar. 1, 2.

Minnesota Petroleum Association, Hotel Radisson, Minneapolis, Mar. 3, 4.

National Petroleum Marketers Association, Congress Hotel, March 8, 9, 10.

American Oil Burner Association, Broadway Auditorium, Buffalo, N. Y., Apr. 5, 6, 7.

American Oil Men's Association, Congress Hotel, Chicago, Apr. 12, 13, 14.

Vacuum Seeks Interest In Metro Stations

CLEVELAND, Jan. 15.—Vacuum Oil Co. is negotiating to buy an interest in Metro Stations, Inc., Olean, N. Y., which has distribution in western New York as far east as Syracuse and Cortland and in north-central Pennsylvania as far south as the west branch of the Susquehanna river.

Metro Stations was organized and expanded by B. M. Marcus, Olean. Its growth the last two years has been rapid. It has worked jointly with the Vacuum in its expansion, Independent distributors being signed up to handle Metro gasoline and the Vacuum's Mobiloil motor oils.

The Vacuum was organized in New York in 1866 as a lubricating oil manufacturer and has never entered the retail field but has wholesaled its lubes throughout the world. Its gasoline and products outside lubes in the past have been sold largely to the Standard Oil Co. of New York but, in the last few years, Metro has acquired some of the gasoline from the Vacuum's refinery at Olean. Should the present deal be accomplished Vacuum would compete, through Metro stations, with the Standard of New York and Atlantic Refining.

It is understood, should the deal go through, Mr. Marcus will continue as head of the Metro Stations and C. R. Macauley as general manager. It has not been announced whether the Vacuum contemplates control of Metro or whether it will content itself with a large stock interest. At the Vacuum's offices in New York it was said only that negotiations were proceeding.

Besides the Olean refinery Vacuum has a refinery at Paulsboro, N. J., and finishing plants at Rochester, N. Y., and Bayonne, N. J. Until late in 1924 it never had production of its own. Then it bought some producing properties in Louisiana. It is a large buyer of Bradford, Pa., crude.

Panhandle Crude Firm at Present Price

TULSA, Jan. 15.—While no change in the posted price for Panhandle crude has been made, a firmer tendency is noted. In a few cases premiums of 5 to 10 cents have been paid, and some operators report offers ranging higher. Major purchasers, however, generally assert that they have not paid or offered premiums.

A good sized sale recently was that of the Midwest Exploration Co. to the American Refining Co., being a contract for 500,000 barrels delivered at Wichita Falls. Midwest is also shipping some crude to the Standard Oil Co. of Kansas refinery at Neodesha, Kans.

It is expected by spring all Panhandle production will be moving freely, with little going to storage. Substantial progress is being made on the trunk line construction program and, with a continuance of open weather, the work will be pushed rapidly.

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Lower Short Haul Rates Proposed by N. P. A.

CLEVELAND, Jan. 17.—Proposals for lower rail rates for short hauls in Central Freight Association and Eastern Trunk line territories were submitted Jan. 14 at the New York hearing on the eastern rate structure by L. B. Morgan, traffic manager of the Waverly Oil Works Co., Pittsburgh. The proposals were those of the National Petroleum Association and are intended to protect refiners in C. F. A. territory against reduction of rates for petroleum products coming into C. F. A. and E. T. L. territory from other territories at new lower rates.

On the longer hauls within C. F. A. territory a few of the proposed rates are higher than present rates. For example, for a haul of 560 to 580 miles the present rate is 32 cents in Zone A; under the N. P. A. proposal the rate is 32.5 cents. Increases of ½ to 1½ cents are proposed by the N. P. A. on rates for hauls from 620 to 800 miles. On hauls from less than five miles up to 300 miles, reductions of 2 to 4 cents from present rates are proposed for C. F. A. territory.

"The scale proposed is not a strict mileage scale as that term is ordinarily used, for it is intended only as a guide in constructing specific rates and will leave it possible for the grouping of competitive points that are normally grouped together," said Willis Crane, traffic attorney for the N. P. A.

N. P. A. Trustees Pick Convention Dates

PITTSBURGH, Jan. 17.—Trustees of the National Petroleum Association met here Jan. 13. Those present were O. P. Keeney, Tide Water Oil Co., president; Arthur W. Scott, Empire Oil Works Inc., Oil City; Howard Greene, Kendall Refining Co., Bradford; E. M. Lyons, Tiona Refining Co., Warren; T. J. Hilliard, Waverly Oil Works Co., Pittsburgh, and Fayette B. Dow, Washington counsel.

The board decided to have the semi-annual meeting of the Association at Cambridge Springs, Pa., April 28 and 29, and the annual meeting at the Traymore Hotel, Atlantic City, Sept. 14, 15 and 16.

It was decided that the manufacturing department should visit the new refinery of the Crew-Levick Co., on Petty Island, Philadelphia, on April 8. This is one of the many visits of refinery operating officers to various refineries.

The board fixed the monthly trustees' meetings as follows: Feb. 18, New York; in March at Cleveland; in April at Cambridge Springs; in May at Warren, Pa., and in June at Oil City.

The board discussed the railroad rate situation and decided to adhere to the traditional position of the association which is to keep out of controversies between competing groups. Mr. Dow explained the presentation of the association's position through its traffic counsel, Willis Crane, recently held at Pittsburgh where the association submitted data and arguments on the fundamentals of rate levels, comparing the rates for oil with the rates for other commodities and pointing out how best to devise rates to increase the movement of oil on the railroads. The N. P. A. is the only oil association with a traffic department.

It was decided to have each group of the manufacturing department study specific questions and to prepare papers on the various subjects for discussion at the semi-annual meeting.

The Pittsburgh group will study "Criticisms of Our Boiler House Engineering and how to improve it."

The Oil City group will study "Economical Use of Fuller's Earth and Possibilities of a Substitute."

The West Virginia group will study "Under What Conditions is a Refiner Justified in Buying Central Station Power and What KWH Cost Should There Be in a Well Balanced Refinery."

The Warren group will study "Cracking of Wax Distillate to Get the Best Pressing Results and the Maximum Yield of Neutral Oils."

The Bradford group will study "Heat Exchange in Refining and the Conservation of Water."

The board also discussed the efforts of the department on standards and tests. That department has arranged for a test of 600 steam refined stock to be made by the U. S. Bureau of Standards. Samples are being sent from each refinery to the bureau for testing. The results of these tests will be returned to each refinery and it can check its own laboratory results with the results of the bureau. From it the board hopes to develop more uniformity in tests.

The board was entertained by Mr. Hilliard at dinner at the Pittsburgh Country Club.

Two Ohio Bills Limit Gasoline Tax

CLEVELAND, Jan. 17.—Two bills to limit gasoline taxes in Ohio to 2 cents a gallon will be introduced in the Ohio General Assembly this week. One is fostered by Peter Witt, Cleveland disciple of Tom L. Johnson, sponsor of cheap transportation, who seeks to have the limitation imbedded in the Ohio constitution.

It is necessary for constitutional amendments to be submitted to a referendum in Ohio and unless the legislature provides for a referendum Witt says he intends to initiate one. He already had thousands of signatures to initiating petitions many of which were obtained from motorists at service stations throughout the state. Witt also would exempt automobiles from personal property taxes and limit the price of tags to $1 a pair a year.

The other bill is sponsored by the Ohio State Automobile Association. It contains the $1 license fee and 2-cent maximum tax but does not provide for personal property tax exemption for automobiles.

Gulf Oil Corp. Finances Expansion Program

CLEVELAND, Jan. 17.—Gulf Oil Corp. of Pennsylvania is funding investments in present undeveloped properties in the United States and foreign countries, by the issue of $35,000,000 of 20-year 5 per cent sinking fund debenture gold bonds, dated Feb. 1, 1927, and maturing Feb. 1, 1947. The price is par and accrued interest. The offering is made through the Union Trust Co. of Pittsburgh, Guaranty Co. of New York, Bankers Trust Co. of New York, National City Co. of New York, and the Mellon National Bank of Pittsburgh.

W. L. Mellon, president, in a letter to the bankers, said production of the company's subsidiaries in this country exceeded 140,000 barrels of crude a day and with production in Mexico and Venezuela its production was approximately 190,000 barrels a day. It has more than 5000 wells in the United States. Its pipe line system is more than 3000 miles long and handled 46,900,000 barrels of crude in 1926.

Its daily refining capacity is 150,000 barrels including the new 20,000-barrel plant at Bayonne, N. J. It has under construction near Philadelphia a plant of like size. Mr. Mellon describes the Gulf refinery at Port Arthur, Texas, as one of the largest in the world.

Its tank fleet has a cargo capacity of 1,600,000 barrels. It transports crude from foreign fields to the refineries and products to its terminals on the Gulf and Atlantic coasts whence the oil is distributed through more than 1500 sales stations. Its ocean terminals are at Galveston, New Orleans, Mobile, Tampa, Jacksonville, Savannah, Charleston, Philadelphia, New York harbor, Providence and Beverly (Boston). During the last year, Mr. Mellon wrote, about $5,000,000 was invested in marketing properties in Continental Europe and the United Kingdom.

Net earnings in each of the last five years has been $16,600,000 or more, the average for the five-year period being $26,400,000 a year and in the first 10 months of 1926 exceeded $33,460,000. During the five years more than $92,000,000 net earnings have been retained in the business after dividends. The balance sheet of Oct. 31, 1926, after giving effect to this financing, showed current assets of $128,122,581 or 7.6 times current liabilities. The company has outstanding $110,142,900, par value, capital stock which has a market value of more than $400,000,000.

Under a trust indenture to the Union Trust Co. of Pittsburgh the bonds are a direct obligation of the corporation which is pledged not to permit any secured indebtedness against its properties or those of its subsidiaries except purchase money obligations on property later acquired. The bonds are callable at 104 on any interest date until after 104 and accrued interest on or before Feb. 1, 1937, or at 102 after that date but only in their entirety.

Refinery Fire Marshals Tell Methods To Lessen Plant Hazards

PITTSBURGH, Jan. 15

THE second annual meeting of the fire marshals of the National Petroleum Association was held here Jan. 14. Twenty-four fire marshals were present, representing practically as many refineries.

These fire marshals supervise the fire prevention and the fire fighting organizations of each plant. They are generally superintendents or assistant superintendents. They make regular inspection of the plants, reporting to Houston Dunn of the National Petroleum Mutual Fire Insurance Co., who acts for the National Petroleum Association as the operating head of the fire marshal movement. These reports are checked and such information as is necessary is called specially to the attention of the executives of each refinery.

The fire marshals also organize and train the fire fighting organization in each plant. The work has been in progress for a year. Mr. Dunn, who was present, said he was much gratified at the extent to which the idea had been taken up and the thoroughness with which it had been pushed in so many plants.

As showing the appreciation of the National Petroleum Association for the work and indicating its desire to keep it up to high standards, F. B. Dow, secretary of the association, presented each fire marshal a silver badge indicative of his office, to be worn at the plant.

New officers were elected. J. B. Northrop, superintendent of the Ohio Valley Refining Co., St. Marys, W. Va., was the first president. J. W. Fawcett, of the Crystal Oil Works, Oil City, was vice president and E. A. Stillwagon, Emery Manufacturing Co., Bradford, secretary and treasurer. The following new officers were unanimously chosen: president, James Herbert, Conewango Refining Co., Warren, Pa.; vice president, James F. Sweeney, assistant superintendent Viking Oil Corp., Clarendon, Pa.; secretary and treasurer, S. R. Brown, Mutual Refining Co., Warren.

Mr. Herbert, Mr. Sweeney explained, had been active in organizing not only a fire-fighting brigade in his own plant, but in arousing interest in the group of fire marshals at Warren.

Importance of Work Outlined

MR. DUNN opened the meeting by outlining the work and emphasizing its importance. He considered it one of the greatest things the National Petroleum Association has ever done. He told about the Warren group of fire marshals meeting every Saturday afternoon to inspect each other's plants and the good that had come of that.

Each fire marshal told in a few words of the operation of his own organization. Mr. Stillwagon said he had been most surprised in the rivalry which he had been able to obtain between teams in fire drills. He said that on the first drill, after the men had been given instructions, they went from their posts to the hose-house and ran the hose reel and other equipment 180 yards and were all hooked up in three minutes.

The men discussed some means of notifying the members of a fire brigade of a drill without having to ring the general alarm, because so many of the refineries are located in groups and in neighborhoods where the seriousness of a refinery fire is understood that, when an alarm is sounded, men from neighboring refineries and plants come piling in to lend aid. An auto-call system was recommended by several. Mr. Dunn advised that such a system be worked on a closed circuit, instead of an open circuit; that is, that the signal ring when the circuit is opened by hand. When the circuit has to be closed in order to get the signal, Mr. Dunn said there had been times when it would not ring and there would be no way of knowing it until too late.

Autos Kept Out of Plants

GEORGE H. ANDERSON of the Sun Oil Co., Toledo, told of some of their experiences and rules, one of which, he said, forbids automobiles in the plant. A parking space is provided near the gate.

There was a lengthy discussion of how to apply the rule against smoking. The fire marshals unanimously went on record against smoking. The opinion of many was such a rule could be enforced much better if everyone on the refinery property, including the officers in the office, would recognize the rule.

There was considerable discussion of washing clothes in benzine or gasoline. H. E. Newell, representing the National Board of Fire Underwriters, said that there are a number of safety solvents on the market flashing over 100° F. closed cup. Mr. Anderson said that at the Sun Co.'s plant the men made a washing machine in which they used soda. Others had barrels of benzine at safe places. Mr. Dunn said that, if they must use such barrels, they be plainly marked so they could not be mistaken for barrels of water or sand to be used in case of fire.

J. H. Allen, of the Foamite-Childs Corp., New York, and S. G. Freck, engineer in charge of sales at the Pittsburgh office, gave a talk illustrated with moving pictures of some of the latest ideas for the use of foam at fires. The fire marshals asked many questions.

Mr. Newell, who for years had been either a member of, or secretary of the Flammable Liquids Committee of the National Fire Protection Association which has charge of drafting regulations pertaining to the oil industry, was the chief speaker of the afternoon. He talked informally, making use of various points that were brought out in the day's discussion. He said that, in a recent trip to marine terminals of oil companies, he was impressed with the desirability of keeping control valves to oil lines out where they can be reached quickly and where they cannot be damaged by fire.

Good Housekeeping Essential

GOOD housekeeping and plant layout, he said are two essential features of proper fire prevention. The self inspection form so-called, being the blanks which the fire marshals fill out as they go over the plant are an excellent means of teaching members of the fire brigade what hazards there are and where they may be. He suggested that such inspection forms be given to different groups if possible, or individuals of each fire brigade in rotation. The fire marshal should take his brigade through the plant on several inspections and explain the hazards and points he criticises, Mr. Newell said.

The all steel gas-tight tank, Mr. Newell said, was one of the greatest boons that the oil industry has developed. He declared it protected not only against evaporation and made a plant much safer in case of fire, but that it is a protection against lightning, because it more readily permitted of the discharge of an electrical charge either in the clouds or in the earth without there being any gap in the metal used in the tank construction across which a spark could jump.

He said he felt that the lightning hazard was practically solved by the all-steel gas-tight tank.

He has been trying to get several of the bigger oil companies to make experiments with carbon dioxide to be carried in cylinders on trucks to outlying tanks and applied in case of fire. He said that the great trouble with carbon dioxide in the tests run so far was that it could not put out the burning embers of wooden roofs, but this might be taken care of by bringing up truck tanks of water. Mr. Newell said he felt that the idea of portable equipment for outlying oil installations could be developed.

Mr. Allen, of the Foamite Co., said that they were figuring on using a portable water tank in conjunction with their foam equipment in the new vehicular tunnel at New York.

Mr. Newell warned the men that they should not put as much dependence upon steam for oil fires as they have in the past; not because steam is not effective, but that investigation has shown the average plant does not have enough

steam raising capacity to take care of a bad fire. If you didn't have enough steam you are as badly off as if you had none, he said. Mr. Newell told of the work of the Flammable Liquids Committee in drawing up regulations and particularly of its work on regulations for oil tanks.

The following were in attendance at the fire marshals meeting:

F. J. Keiman, Tiona Refining Co., Warren, Pa.
S. C. Bean, W. O. W., Warren.
James F. Sweeney, Assistant Superintendent, Viking Oil Corp., Clarendon, Pa.
S. R. Brown, Mutual Refining Co., Warren.
V. McGuire, Warr-Penn Refining Co., Warren.
R. L. Peterson, Tidioute Refining Co. Tidioute, Pa.
H. S. Borchers, Superior Oil Works, Warren.
C. W. Elmquist, Seneca Oil Works, Warren.
H. E. Shoemaker, Independent Refining Co., Oil City, Pa.
C. C. Gilson, Independent Refining Co., Oil City.
Frank Philippbar, Kendall Refining Co., Bradford, Pa.
F. J. Van Bergen, Canfield Oil Co., Cleveland.
R. W. Helm, Canfield Oil Co., Coraopolis, Pa.
D. J. Harvey, Pennzoil Co., Oil City.
M. J. Glynn, Emlenton Refining Co., Emlenton, Pa.
E. A. Stillwagon, Emery Manufacturing Co., Bradford.
J. G. McCain, Freedom Oil Works, Freedom, Pa.
George H. Anderson, Sun Oil Co., Toledo.
Robert B. Kunz, Waverly Oil Works, Coraopolis.
Charles Ploesch, Waverly Oil Works, Coraopolis.
J. B. Northrop, Ohio Valley Refining Co., St. Marys, W. Va.
J. W. Fawcett, Crystal Oil Works, Oil City.
W. G. Eaton, Island Petroleum Co., Baltimore.
A. W. Cleaveland, Pure Oil Co., Chicago.

Standard of Indiana Alters Q. D. A.

Staff Special
By Telegraph

CHICAGO, Jan. 18.—A revision in its quantity discount agreements with dealers who buy gasoline from tank wagons, was announced by the Standard of Indiana today, effective Jan. 19.

Under the new schedule the dealer who buys from 50 to 6,000 gallons a month will receive a discount of 1 cent a gallon at the end of the month. The dealer who buys from 6,000 to 10,000 gallons will receive a discount of 1½ cents and above 10,000 gallons 2 cents.

Under the old schedule, which has stood since July 1, 1926, the garageman who handled 1,000 gallons of gasoline received a discount of ½ cent, on 2,000 gallons ¾ cent, on 3,000 gallons 1 cent, and on 6,000 gallons 1½ cents.

OHIO GAS & OIL MEN TO MEET IN MARCH

COLUMBUS, O., Jan. 18.—The Ohio Gas & Oil Men's Association will hold its annual meeting March 1 and 2 at the Elks Home on E. Broad St. here.

A banquet will be held on the evening of March 1 at which Capt. Irving O'Hay will be principal speaker. A well-attended meeting is expected, according to William H. Thompson, secretary of the association.

Oil Leaders Attend Donnell Funeral

CLEVELAND, Jan. 15.—Prominent men in the oil industry from many parts of the country were in Findlay, O., Jan. 12, to attend the funeral of J. C. Donnell, president, Ohio Oil Co., who died suddenly Jan. 10. Special services were held in the public schools, where he was lauded as the greatest benefactor of the city's schools. A junior high school is named after him. Citizens of Findlay mourned his death as a great loss to the community. Business in the city was suspended for an hour during the funeral.

Funeral services were held in the First Presbyterian church and interment was at Maple Grove cemetery in Findlay. The following were honorary pallbearers: George H. Jones of New York, chairman, Standard Oil Co. of New Jersey; Arthur F. Corwin, New York, Standard Oil Co. of New York; George Carpenter, New York, Jesup Lamont; R. L. Welch, New York, general secretary, American Petroleum Institute; W. E. Burmet, New York; S. A. Mageath, New York; Carl H. Pforzheimer, New York; A. W. Moasby, New York, president, Equitable Trust Co.; Dr. William M. Burton, Chicago, president, Standard Oil Co. of Indiana; Col. R. W. Stewart, Chicago, chairman, Standard Oil Co. of Indiana; George W. Crawford, Pittsburgh, president, Ohio Fuel Co.; Frank Collins, John Geismar and A. F. Mitchell, of Toledo; P. J. Shouvlin, Springfield, president, Superior Gas Engine Co.; C. O. Stillman, Toronto, president, Imperial Oil Co., Ltd., and A. P. Coombe, Cleveland, president, Standard Oil Co. of Ohio.

N. G. A. Southwest Division Meets in Tulsa

TULSA, Jan. 15.—The first general meeting of the southwest division of the Natural Gas Association of America will be in Dallas some time in April.

This was decided Jan. 11 at a meeting in Tulsa to lay out plans for the new division, authorized in 1926 when the N. G. A. met in Tulsa. Some 50 representatives of the major gas companies were present at the Jan. 11 meeting and there was full discussion on the policies and purposes of the division.

N. C. McGowen, of Shreveport, presided. He is an official of the Palmer interests operating in Louisiana and vice-president of the N. G. A. and, when the southwest division was formed, it was provided that the president or vice-president of the parent association residing in the division serve as its chairman. The southwest group has a paid secretary, George McQuaid, of Dallas, who, in addition, is representative of several public utilities in Texas.

C. W. Sears, president of the Larutan Fuel Co., Wichita, Kans., one of the organizers of the N. G. A., said that only 13 were present at the first meeting, held in Kansas City, and there was little idea that the organization would grow to its present proportions. In the same way, beginning as a small group, he said the southwest division can be made of great value to the industry of the region it serves and he urged all effort possible be made to bring the gas companies of the southwest into the association.

R. C. Sharp, president of the Oklahoma Natural Gas Corp., said meetings of the division should be held frequently, say every 90 days. He sees much good in making meetings accessible to the minor executives of gas companies.

Mr. Sharp said the gas distributing companies are increasingly dependent upon the oil producers for their supply and urged that this southwest division keep before it, as one of its main purposes, the betterment of understanding with the oil men.

A. W. Leonard, former president of the N. G. A., said that meetings should be held at points where field men could attend. Others who took part in the discussion were H. L. Montgomery, of the Empire Companies, Bartlesville; W. B. Tuttle, San Antonio Public Service Co.; V. A. Hayes, Union Gas Corp., Independence, Kans.; Carl Minnig, Phillips Petroleum Co., Bartlesville; George McQuaid, secretary of the division and Keith Clevenger, Empire Companies, Bartlesville.

Don Wallace Becomes Safety Director

TULSA, Jan. 15.—Don J. Wallace, safety superintendent of the Humble Oil & Refining Co.'s plant at Baytown, Tex., has become safety director of the Mid-Continent Oil & Gas Association. He succeeds Ray Miller, who resigned several weeks ago to return to his work as safety director for the Marland Oil Co. Mr. Miller had been on leave of absence from the Marland organization.

Mr. Wallace will take up his new duties in Tulsa about Jan. 21. He was one of the original organizers of the Petroleum Safety Council in Texas, later taken over by the Mid-Continent association as the nucleus of the department which now functions throughout the Mid-Continent and the Southwest.

The program for this year's work includes the making of a safety picture, foremen's meetings in various fields and active assistance to the companies in putting in safety departments where none are now in existence.

WILL SELL INDIAN LEASES

TULSA, Jan. 15.—C. L. Ellis, of Muskogee, district superintendent in charge of affairs of the Five Civilized Tribes, set Feb. 1 for the first auction sale of oil leases on restricted Indian lands, under the new regulations. The sale is to start at 10 a.m. at the agency offices. Rules similar to those at Osage sales will apply. Purchasers must pay the cashier of the agency 20 per cent of bonus bid by 3 p.m. on day of sale.

Tracts to be sold total about 2500 acres, and are located in Creek, Hughes, Grady, Jefferson, Love, Marshall, McClain, Nowata, Okfuskee, and Okmulgee counties.

Refiners Can Produce as Much 400 E. P. Gasoline as of 437 Now

By J. C. Chatfield
N. P. N. Staff Writer

By Telegraph
WICHITA FALLS, Jan. 17

An increasing amount of 400 end point gasoline will be sold at the competitive price for U. S. Motor specification gasoline, was the prediction made here today by Fred C. Koch, consulting refinery engineer of the firm of Winkler & Koch of Wichita, Kansas, at the conclusion of a paper on bubble towers presented before refinery technologists of the Mid-Continent field.

More than 85 refinery plant managers, chemists and other technical men were present at the session conducted by the Western Petroleum Refiners Association. The meeting is the first of a series of quarterly conferences for refinery superintendents on plant operating problems.

Mr. Koch based his prediction as to the tendency for a greater output of 400 end point gasoline on results obtained through the operation of bubble cap towers. He indicated that the growth of production of the low end point motor fuel will follow the wider installation of the most modern fractionating equipment.

Can Get Better Yield

As much 400 end point gasoline can be produced from the distillation of pressure distillate with the aid of a bubble tower as 437 end point gasoline with the aid of other types of towers, Mr. Koch stated. He showed that, by using bubble towers, fractionation is so close that a 437 end point gasoline will have intermediate boiling points considerably higher than those permitted for U. S. Motor gasoline.

As an example, Mr. Koch showed results of bubble tower distillation of a 49.6 gravity pressure distillate with an initial boiling point of 140 degrees F., 20 per cent over at 243, 50 per cent at 376, 90 per cent over at 406 and an end point of 596 degrees. From such a distillate he produced a 54.8 gravity gasoline with an initial of 120, 20 per cent over at 233, 50 per cent over at 313, 90 per cent over at 406 and an end point of 431. The next product to come overhead from distilling the pressure distillate was a 450 initial oil.

Roy B. Jones, vice president of the Western Refiners' Association, welcomed the technical men to Wichita Falls at the opening session this morning and appointed Dr. C. K. Francis, chief technologist for the Skelly Oil Co., as chairman. Mr. Jones told the technologists that much of the advance in the art of refining in recent years has been due to the co-operative exchange of ideas.

As long as refiners hid their plants behind high board fences and guarded their so-called manufacturing secrets the industry moved forward very slowly, but now that one refiner is free to visit his competitor's plant and exchange suggestions both are gainers, he declared. Mr. Jones gave credit for the better understanding and co-operation in all branches of the industry to the work of the American Petroleum institute.

In a paper on vapor recovery systems at refineries, B. C. Frichot, chief chemist for the Shaffer Oil & Refining Co., reported on the methods used in two different plants. He gave a description of equipment used and results obtained. Discussing the value of cool condenser water in preventing formation of uncondensed still gases, Mr. Frichot stated that, for each two degrees rise in temperature of cooling water above 70, there is an increase of three per cent in the amount of gas formed. He estimated that normally from 125 to 250 cubic feet of uncondensed gas is formed in the average refinery for each barrel of crude charged to stills.

In the discussion which followed, C. C. Peppers of the Peppers Gasoline Co., Enid, told of a vapor recovery system at his plant which cost less than $2,000 and produces from 350 to 375 gallons of high gravity gasoline daily on a crude charged of 700 barrels.

B. P. Lientz of B. P. Lientz & Co., Kansas City, read a paper on the construction and operation of furnaces in which he laid special stress on the recirculation of flue gases and the use of the heat of convection rather than radiant heat for efficiency.

Deals With Fuel Economy

J. O. THOEN, efficiency engineer for the Marland Refining Co., Ponca City, followed with a paper which dealt with all phases of fuel economy at refineries.

Lively interest was shown by the plant managers in the experiments which the Marland operators are conducting in burning acid sludge and coke under stills and boilers to lower fuel costs. At this plant a mixture of sludge and coke is being burned with the aid of mechanical stokers and higher boiler and still settings to give a longer flame travel.

The careful saving of exhaust steam to lower fuel costs was a subject which interested the technologists also. Mr. Thoen gave detailed figures showing results of steam economy at the Marland plant.

The afternoon was spent in visiting Wichita Falls refineries. The technologists were taken through plants of the American Refining Co., Panhandle Refining Co., and the Continental Oil Co. of Texas. W. F. Sims, plant manager for the Panhandle Refining Co., was chairman of the entertainment committee for the meeting.

The committee provided a banquet at the Kemp Hotel this evening. At the dinner the mayor briefly welcomed the refinery men after which the remainder of the evening was spent in a discussion of bubble tower operation under the leadership of Mr. Koch.

Pure Names New Field Head in Southwest

TULSA, Jan. 15.—James M. Rush, recently of the Simms Oil Co., has been made general superintendent of production for the Pure Oil Co. in the southwestern producing division. He succeeds E. P. Campbell, former petroleum engineer of the Bureau of Mines.

Mr. Rush was with the Ohio Oil Co. for 12 years in Crawford county, Ill. He came to Healdton in 1914 with the Gates Oil Co., serving four years in that field and in 1918 went with the Skelly-Sankey interests, having charge of the Desdemona, Tex., properties for them.

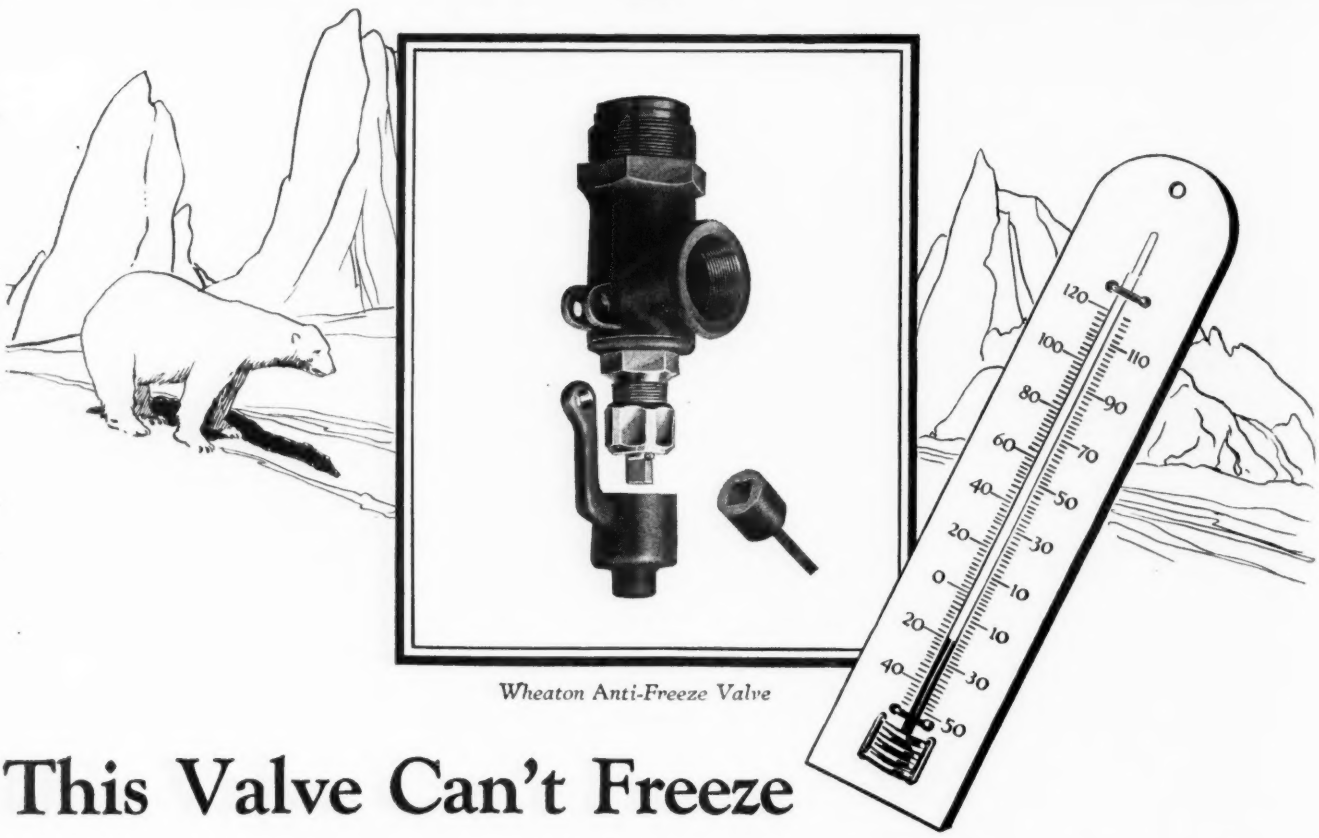
In 1920 Mr. Rush was made division superintendent for the Sinclair Oil & Gas Co. in north Texas and in 1922 went with the Simms as superintendent in central Texas and at the beginning of 1926 was made general superintendent in charge of drilling and production in Arkansas, Louisiana, Texas and Oklahoma. He joined the Pure Oil Co. on Jan. 1, last.

CHANGES IN PHILLIPS COMPANY

TULSA, Jan. 17.—O. P. Miller, superintendent of gasoline plants in the Wetumka district for the Phillips Petroleum Co., has been transferred to the Panhandle fields of Texas. There he will enter the engineering department as superintendent of construction. His particular work will be in the construction of pipe lines.

L. P. Clarke, formerly superintendent of the Burbank natural gasoline plant has taken Mr. Miller's position at Wetumka. J. W. Boyd, superintendent of the Phillips plant in Township 11, Range 11, has been placed in charge of the Burbank plant.

CHICAGO, Jan. 17.—L. B. Patterson, gasoline sales manager, Acme Petroleum Co., Chicago, called on the trade in Michigan this week.



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This Valve Can't Freeze

Because It Drains Dry

THIS Wheaton Anti-Freeze Valve is especially designed for drawing off water which settles at the bottom of storage tanks.

The valve seat is located *inside* the tank, while the valve body is located *outside* the tank, so that when the valve is closed the liquids are excluded from the body and the valve drains *dry*. With this accomplished, the danger of the valve body freezing is removed.

Many of the largest oil companies in the United States have adopted the Wheaton Anti-Freeze Valve for drawing water from the bottom of their storage tanks. They have found it ideal for this purpose, for it not only drains all the water from the tank, but, since no water ever remains in the body of the valve to freeze, there is no danger of the valve breaking and causing leakage.

From style to strength, this Anti-Freeze Valve is of Wheaton Quality. It is made of the same special-analysis, non-corrosive, non-crystallizing brass alloy—tempered, toughened and tested—which is found in all Wheaton Faucets and Valves. The extraordinary quality of this high-grade brass alloy, together with the fine fit and finish of the valve, assures perfect operation and long life. Sizes: ¾, 1 and 2-inch.

Write today for a sample. If it does not prove entirely satisfactory you may return it for full credit or refund. Also, ask for a copy of the Wheaton Catalog, which fully describes and illustrates all the other Wheaton Products.

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FAUCETS · VALVES · JOINTS · COUPLINGS · FILLERS · NOZZLES · FITTINGS

Col. Hurley Elected President Of New Banking Concern

TULSA, Jan. 15

ELECTED president and trust officer of the First Trust and Savings Bank, newly organized by the First National Bank of Tulsa, Col. P. J. Hurley will continue as president of the Gilliland Oil Co.

The Gilliland has under way certain reorganization work, including new financing, and it plans to expand its producing operations.

One of the few authentic and properly documented colonels in a land of many who gained their titles apart from war service, Col. Hurley is one of the foremost citizens of Tulsa. He practiced law in Oklahoma for many years. He served throughout the war, and later became vice-president and general counsel of the Gilliland company. In the depression of 1921, the company went into receivership, Col. Hurley being one of the receivers and it is generally known that his was a major part in getting the company back on its feet.

Coincident with the formation of the First Trust and Savings Bank, the First National announced an increase in its capitalization to two million, doubling the capital stock. Fourteen new directors were named, a large number being oil men. Directors of the First National who are engaged in the oil business are:

—Photo by J. L. Rivkin

COL. P. J. HURLEY

Oil Men are Directors

ARTHUR A. BEARD, vice-president and general manager, Tidal Oil Co.

H. N. Cole, vice-president, Pure Oil Co.

J. B. Foster, president, Foster Oil Co.

P. J. Hurley, president, Gilliland Oil Co.

W. L. Kistler, president, Kistler Petroleum Co.

R. Otis McClintock, vice-president, Philmack Co.

J. I. Cromwell, president, Cromwell Oil & Gas Co.

D. F. McMahon, oil producer.

D. W. Moffitt, vice-president, Mid-Continent Petroleum Corp.

Clyde H. Pape, secretary-treasurer, Selby Oil & Gas Co.

Waite Phillips, president, Philmack Co.

Robert C. Sharp, president, Oklahoma Natural Gas Corp.

W. G. Skelly, president, Skelly Oil Co.

T. B. Slick, oil producer.

George W. Snedden, vice-president, Western Oil Corp.

The directorate of the First Trust & Savings Bank also includes several oil men. They are:

A. M. Ballard, manager, refining and distributing division, Sun Oil Co.

James K. Crawford, president, Brothers Oil Co.

J. F. Darby, president, Darby Petroleum Co.

George Dye, vice-president, Wilcox Oil & Gas Co.

J. B. Foster, president, Foster Oil Co.

W. C. Franklin, vice-president and general counsel, Tidal Oil Co.

Frank J. Hinderliter, vice-president and general manager, Hinderliter Tool Co.

P. J. Hurley, president, Gilliland Oil Co.

L. B. Jackson, oil producer.

John H. Kane, vice-president and general counsel, Phillips Petroleum Co.

W. L. Kistler, president, Kistler Petroleum Co.

Charles Klein, treasurer, Mid-Continent Petroleum Corp.

R. Otis McClintock, vice-president, Philmack Co.

Edgar T. Noble, vice-president and general counsel, McCulloch Oil Co.

Waite Phillips, president, Philmack Co.

W. G. Skelly, president, Skelly Oil Co.

H. R. Straight, vice-president and general manager, Empire Gas & Fuel Co.

While the First National and its new affiliated company, the First Trust and Savings, made the most additions to its directorate, other Tulsa banks elected oil men to the board. The Security National Bank changed its name to the Tulsa National and elected four oil men to the board. They are Johnson D. Hill, formerly associated with Waite Phillips, and now president of the Tulsa Trust Co.; C. C. Herndon, vice-president of the Skelly Oil Co.; O. L. Cordell, president of the Tulsa Independent Oil Co. and Charles L. McMahon, independent oil operator. To the board of the Tulsa Trust Co. were added Charles L. McMahon, George L. Caterbury, oil operator.

The National Bank of Commerce elected two new directors. One of these, A. P. Wright, is an oil man. He is president of the Riverland Oil Co.

Ambrose Heads Tulsa Chapter, A. I. M. E.

TULSA, Jan. 15.—A. W. Ambrose, head of the land and geological departments for the Empire Companies, Bartlesville, and a prominent petroleum engineer, was elected chairman for 1927 of the Mid-Continent section, American Institute of Mining and Metallurgical Engineers. He succeeds Frank A. Herald, consulting geologist, who now becomes an ex-officio member of the executive committee.

Vice-chairmen elected included C. V. Millikan, of the Amerada Petroleum Corp.; H. C. George, professor of petroleum engineering at the University of Oklahoma, Norman; C. C. Osborn, head of the department of economics, Marland Oil Co., Ponca City.

Burr McWhirt, of the Roxana Petroleum Corp., was elected secretary-treasurer, succeeding A. F. Hinton, of National Petroleum News. The latter was appointed member of the program committee, along with George S. Rollin, of the Roxana Petroleum Corp., and C. V. Millikan.

The executive committee, in addition to the chairman, vice-chairmen, secretary-treasurer, and the retiring chairman, will be made up of E. P. Campbell, formerly of the Pure Oil Co., and before that with the U. S. Bureau of Mines; Alf G. Heggem, president of the Oil Well Improvements Co.; A. I. Levorsen, and James O. Lewis, all of Tulsa.

Election of officers followed the regular technical meeting, at which the principal speaker was Morgan Walker, of the Bureau of Mines, Bartlesville, who talked on de-watering gas wells, using gas-lift principles.

PHILLIPS PLANTS READY MARCH 1

TULSA, Jan. 17.—By March 1, Phillips Petroleum Co. expects to complete its two new natural gasoline plants in the Texas Panhandle. The company will then have sufficient capacity to handle 225,000,000 cubic feet of gas per day in the Panhandle fields alone.

Near Borger Phillips is building a 40,000,000 cubic foot oil absorption plant. The second plant is being built north of the river. Of the same type it will handle 16,000,000 cubic feet of gas per day.

TULSA, Jan. 17.—Marland Refining Co. has opened a new bulk station at Wewoka, Okla. D. A. Robinson, formerly a Marland service station man at Shawnee, has been made agent at Wewoka.

Ragle Chosen President of Executives' Club

CHICAGO, Jan. 15.—The Executives' Club, an organization comprised of presidents and secretaries of state oil jobbers' associations, met in Chicago Jan. 14 and elected H. H. Ragle, American Oil Corp., Jackson, Mich., president of the Michigan jobbers' group, president of the club to succeed W. H. Trimble, Western Oil & Refining Co., Indianapolis, Ind.

The last elected president of the club was James A. Gilmore who was automatically deposed when he resigned as secretary of the Michigan association to become secretary of the American Oil Men's Association.

Mr. Gilmore was succeeded by Mr. Trimble who ceased to be a member of the club when he declined re-election as president of the Indiana jobbers' association.

Paul Hadlick, secretary of Minnesota and North Dakota jobbers' associations, was re-elected secretary of the club. He also called the Chicago meeting.

Those present were H. H. Ragle, American Oil Corp., Jackson, Mich., president of the Michigan jobbers; W. D. Cross, Eastern Indiana Oil Supply Co., Geneva, Ind., president of the Indiana jobbers; A. L. Lommel, Bartles-Shepherd Oil Co., Waterloo, Ia., president of the Iowa jobbers; George Allee, Kansas City, president of the Missouri jobbers; Mr. Hadlick, Minneapolis; Sam Hurd, Connersville, Ind., secretary of the Indiana jobbers; G. A. Primm, Springfield, Ill., secretary of the Illinois jobbers, R. A. Overholser, Madison, Wis., secretary of the Wisconsin jobbers and M. L. Long of Des Moines, secretary of the Iowa jobbers.

Standard Stations Give Greasing Service

CHICAGO, Jan. 14.—Standard Oil Co. of Indiana officials deny the company is planning to go extensively into greasing of automobiles at its stations or to build elaborate greasing etablishments like the Sinclair Refining Co. has in Chicago. One official even mentioned that the growing popularity of automatic greasing equipment on the new automobiles was a menace to investments in greasing racks at present.

It has been only recently that Standard of Indiana stations offered their trade a greasing service. Not all of them do it now. But Standard stations in small towns in Wisconsin, Iowa and neighboring states are doing greasing. Little special equipment is provided. The work is being done at the motor oil drain pits by the regular station attendants.

Standard officials say that greasing service has been introduced only at the less busy stations. No special greasing men will be employed but it will be performed in spare time by the regular attendants. The innovation has been accompanied by more or less publicity in some places. A new grease is being offered under the name of Iso-Vis to share the publicity of its new motor oil.

Iowa Oil Jobbers Plan For Big Meeting

DES MOINES, Jan. 15.—Sir Harry Lauder will sing in Des Moines Feb. 2, and the entertainment committee of the Iowa Independent Oil Men's Association is trying to have him appear for a little while at their annual banquet that evening at Hotel Fort Des Moines.

Whether they procure Sir Harry or not, there are many inducements to bring many Iowa jobbers to the convention Feb. 2 and 3. Secretary M. L. Long says he expects a registration of 300.

The Iowa legislature is in session and bills that affect the oil industry will be brought up and discussed. A state emblem for Iowa Independents will come up for consideration also. There will be entertainment for the wives of oil men who care to bring them along as well as for those who dare not leave them at home.

Chicago Paper Misleads on 'Substitution'

CHICAGO, Jan. 15.—"When a Chicago motorist drives into a filling station and asks for a quart or so of a certain brand of lubricating oil his chances of getting the brand and quality he ordered are just 16.5 in 100, according to investigations by the Better Business Bureau in co-operation with Deputy Oil Inspector F. P. Taubler."

This is a quotation from a front-page story in the Chicago Daily News, Jan. 14. The situation was not as the newspaper set forth, however. Flint Grinnell, manager of the Chicago Better Business Bureau, said, "The investigation was confined wholely to privately owned establishments already suspected of selling inferior oils under the name of nationally known brands. About 83½ per cent of these suspected were found actually guilty of substitution. They were warned to quit and a subsequent check has shown that half of the offenders did quit."

The investigation was made last October, Mr. Grinnell said. A deputy from the city's oil inspection department, accompanied by representatives of the Better Business Bureau, stopped at suspected stations. The oil purchased was put into a secret container, and analysis of each purchase made by Armour Institute.

No station owned by a Chicago oil company was included in the investigation. Yet the inference that any Chicago motorist stands better than a six-to-one chance of getting cheated when he buys lubricating oil at any station was published on the first page of the Chicago Daily News, with a circulation of more than 425,000.

Illinois Gasoline Tax May be Defeated

CHICAGO, Jan. 14.—State Senator Lowell B. Mason of Chicago, an opponent of the gasoline tax bill which is considered sure to be an issue in the present Illinois legislature, addressed the Greater Chicago Oil Men's Club at its weekly session in the Auditorium Hotel, Thursday noon. Senator Mason and his constituents are working up considerable opposition to a gasoline tax in Illinois and the passage of a tax law seems to be farther away than it did just before the legislature met two weeks ago.

Senator Mason's position might best be described as opposed to all further taxation in Illinois. He said in his talk that more than half of the last bond issue of $100,000,000 for road purposes in this state had not been spent. In other words, the state's road program can continue at its present rate without a gasoline tax, and no further taxation of any kind is absolutely necessary to improve Illinois roads. The state already has a hard road system that ranks among the best in the country.

MARLAND SELLS OMAHA PLANT

CHICAGO, Jan. 15.—Marland Refining Co. no longer operates a retail department in Nebraska. When the firm took over the Derby Oil Co.'s retail equipment it included a marketing plant in Omaha which was sold recently to Nelson Oil Co.

M. L. FREESE IN CHICAGO

CHICAGO, Jan. 14.—M. L. Freese of Tulsa, vice-president, Altitude Petroleum Co., is in Chicago to spend two weeks at the local office at 29 S. La Salle St. It is announced that the company will shortly open a refinery at Granfield, Okla.

Commerce Petroleum Co. Elects President

CHICAGO, Jan. 14.—C. O. Frisbie, formerly general traffic manager of Armour & Co. and president of the Illinois Tunnel Co., afterwards president of the Cornell Wood Products Co. and more recently an executive of the La Salle Extension University, has been elected president of Commerce Petroleum Co., 2921 Lock St., Chicago. He succeeds the late George F. Brigham, Tulsa, Okla.

Commerce Petroleum Co. is one of the largest distributors of burning oils in Chicago, having storage and distributing facilities in five advantageous places. The company was organized in 1918 by Henry H. Brigham, president of the North American Car Corp., and his brother George F. Brigham, Tulsa. Mr. Frisbie and Henry H. Brigham were associated many years ago in the transportation department of Armour & Co.

With Mr. Frisbie's election, it is said, expansion of burning oil, lubricating oil and gasoline markets will be sought.

Recirculating Gases Saves Fuel and Reduces Maintenance in Still Furnaces

By B. P. Lientz
B. P. Lientz & Co., Kansas City

Read Before Plant Operators Meeting, Western Petroleum Refiners Association, Wichita Falls, Tex., Jan. 17

EVERY furnace and combustion chamber should be especially designed to meet specific conditions. The acceleration of combustion by heat is a most important factor in the burning of hydro-carbon gases. The gases of low ignition temperature, such as methane, ethane, and ethylene, burn as flames of inferior luminosity, and even acetylene, that also has a low ignition point, produces the characteristic flame of brilliant luminosity only after having reached its disassociation temperature, which temperature lies beyond the disassociation of the first named hydrocarbons. Therefore, rapid rising of the gases to a higher disassociation temperature is chemically required in order to avoid the premature burning of acetylene gases before disassociation takes place and in order to avoid the forming of gases of incomplete reaction.

The three essentials for combustion are—sufficient air supply, intimate contact between air and fuel, and a high temperature kept up to the ignition point and continued until combustion is complete. Either insufficient air supply or insufficient contact or too rapid cooling are the usual causes for incomplete reaction.

Reaction Is Visible

TO the trained eye incomplete reaction of the various gases is visible. The retina of the eye records heat wave-vibrations in colors ranging from 40,000 to 60,000 per second. Red is recorded at approximately 40,000 wave-vibrations per second. Slightly more than this number causes the retina to record orange. At approximately 60,000 the retina transmits violet, and if the retina could record or transmit a greater or lesser measure of wave in number and length we would, without doubt, be able to discern many more forms, hues and colors.

When I look into a furnace that is **properly constructed** and in which disassociation and reaction is taking place as it should, I am filled with awe and astounded at the grandeur and beauty which I behold in the release of energy as the gases speed from vibration to vibration, from form to form, and from color to color.

I give to you plant operators the charge that it rests upon you to obtain a maximum fuel economy in the furnace.

As I have just stated, it is necessary in order to obtain a maximum fuel economy, to have a properly constructed furnace. Air required for the combustion of fuel should be preheated. This is accomplished in a number of different ways. The simplest form of preheating the air for combustion is by the installation of a properly designed furnace in the combustion chamber, forming with the furnace surface, the lower part of the combustion chamber. Hollow wall construction has been used with more or less success. Preheaters to absorb heat from the ejected gases gives a maximum fuel efficiency for boilers and such like applications of high temperature gases.

Air Preheating Furnace

THE furnace, installed in the combustion chamber and placed immediately below the burner flame under the grate line where it absorbes the radiating waste heat of the burner flame and utilizes it to preheat the air required for combustion to almost ignition point before admitting it to the burner chamber, should be so constructed to admit the air to the flame in cross vanes, as far as possible. Under these conditions the air is mechanically mixed with the finely atomized oil globules and, because of the high heat, it accelerates the vaporization and the combustion of oil.

The same, in a large measure, is true of natural gas. The gases for combustion obtained with the proper floor furnace being more uniform and less diluted with excess air, are of richer mixture and require less space for complete combustion or release of energy, and permit better heat absorption by the boiler.

With such type of furnace construction it is not difficult to obtain and maintain with modern boilers, from 82 to 83 per cent combined boiler and furnace efficiency.

Entirely too much stress in the past has been laid upon oil burners. It is quite important to have the proper shape and size burner to suit the particular installation or use but the difference between various oil burners would largely disappear if the correct furnace for each could be arranged, for the important point is what happens after the oil gets into the furnace.

Amount of Air Needed

A GIVEN quantity of oil requires a given quantity of air for correct combustion, but the air should be preheated or properly conditioned and properly introduced to its affinity in order to obtain complete reaction within a minimum of time and space. In the combustion of an oil particle, it is the carbon that is more difficult to burn, for it separates out as soot at the slightest provocation and this causes much heat loss.

This may happen due to a chill as meeting with the boiler tubes or a lack of air at the right moment, and does happen where cold air in place of preheated air is constantly admitted to the furnace. This separating out as soot may occur without the slightest indication in the usual flue gas analysis.

In the proper flue gas analysis it will be noted there is a great heat loss occurring at times even when there is plenty of CO_2 and no CO. Samples may appear showing a trace of CO and at the same time the heat loss due to soot is less. In general, however, along with CO and low CO_2, loss due to the soot may be anticipated.

In ordinary testing practice the special equipment necessary to determine the soot loss is not always available and, in fact, it is a very rare thing to find a CO_2 disciple who can analyze for you or tell you anything about soot loss. The soot loss appears in the heat balance as a high, unaccounted for loss. The analysis of the products of combustion without the soot factor being taken into consideration leads to false conceptions, particularly in the proper design of furnaces.

Proper CO_2 Percentage

FOR each furnace arrangement there is a certain percentage of CO_2 that gives the best results. The rule of adjusting burners to secure a slight haze of smoke may, at times, be quite wrong, as this smoke haze can frequently be secured with various percentages of CO_2 from the same furnace. Furnaces in which the carbon of the oil continually tends to drop out as soot often give greater overall afficiency with considerable excess air.

The exact way of establishing the correct CO_2 for a furnace is by a test where the oil and water are weighed. The furnace that permits the burning of fuel oil in a restricted fire box which requires the least time to complete combustion, will give the highest fuel economy.

The basic advantage of rapid combustion obtained by preheating the air which results in higher disassociation temperature, greater luminosity, and effective retaining of the heat and with efficiently and uniformly distributed fur-

nace temperature, will give the highest fuel economy.

The solution of the problem of furnace fuel economy in boilers and furnaces where high temperature heat applications are desirable, lies in the study of furnace construction, and will be obtained through this means only, when coupled with a competent plant manager and competent operators.

The high temperature furnace operation about which I have been talking is different from the low temperature furnace application of heat. Therefore I will now dwell briefly upon the proper and effective application of heat under low temperature.

Heat Application Ignored

THE relation of heat application in the treatment of oil has hitherto been more or less ignored. It has long been apparent to my mind that the cardinal factor in all cracking processes is the proper and effective application of heat. In developing different processes, machines, and apparatus for the cracking of oils, this most vital principle of the processes has been generally overlooked.

Various designs of furnaces adopted in all of the important cracking processes making gasoline, may be generally classified as direct and indirect heat applications.

It has long been an established fact that medium furnace temperature is the prime requisite in the application of heat to a cracking unit. To secure medium temperatures and volume of the gases of combustion entering the vaporizor where the oil is to be treated, it is apparent that it was necessary to dilute the products of combustion. In part this was done by adding large volumes of excess air with the fuel.

This method of operation resulted in great fuel waste and losses to the licensee.

Heat Transfer Troubles

YOU will realize that under these conditions and hap-hazard furnace construction such as were used in the various processes, uneven distribution of heat and the co-mingling or joint application of heat by convection and by ray, cause hot spots, which necessitated the providing of means to shield the tubes from radiant heat.

This resulted in what I may term the "indirect method of application." This indirect application of heat was accomplished by constructing a chamber for the vaporizing elements, and separating it from the furnace chamber by vertical walls. This method of heat application resulted in greatly reducing the radiant heat, as did the perforated arch in the direct system, but the high fuel cost and the high maintenance cost still prevailed.

All of these efforts were commendable to a greater or lesser degree, as the goal they were working toward was the elimination of radiant heat and the obtaining of transfer of heat of gases into the oil being treated, as far as possible, by means of convection and conduction.

In order to obtain the high velocity required and to obtain the work from the heating surface exposed to the gases, or the proper transfer of heat or amount of heat to the products being treated, it was necessary to eject the gases to the stack at high temperatures varying from 650 to 1000 degrees.

These temperatures, as you know, accounted for the wasteful operation, and the high velocities under natural draft accounted for the hitherto low heat transfer per square foot of heating surface. As the gas came into contact with only one side of the tubes, an endeavor to raise the heat transfer was made by putting rings, or fins, in a corrugated manner on the tubes, but this experiment proved expensive and by reducing thus the travel of oil through the tube and the time of the heat application, defeated in a large measure, its purpose.

Mild Temperatures Needed

THE need of mild temperatures and large volumes of combustion gases for the treatment of oil in pipe stills and cracking units has been apparent to me for a long time. Therefore, a long period has been spent in studying and working to meet these requirements.

The recirculation of combustion gases applied to cracking units reduces the fuel costs, reduces the maintenance cost, and gives a greater heat transfer per square foot of heating surface or a proper heat input per pound of oil being treated.

Let us analyze for a moment the principles of the recirculating of combustion gases in vaporizing units. As I have indicated, a large or sufficient volume of gas, generated and properly tempered in the furnace, is necessary in order to make a proper and effective application of heat to oil vaporizors.

The application of heat is made by the speed and spread of the gases travelling through the vaporizors. It is readily seen that under these conditions without recirculating the gases or re-introducing the gases to the combustion chamber in large quantities, it is necessary to eject from 40 to 50 per cent of the total heat input in the gases to the stack, but with recirculation the volume of gas in the unit is easily brought up to a much greater quantity than it is possible to draw off from the vaporizor by natural draft.

In proportion to the velocity of gases passing over the heating surface, ring structures are removed from the heating surface. This is a very important function.

Gas Lift Story Delayed

Not having secured all the data he desired, A. F. Hinton, National Petroleum News staff writer, has delayed writing the article on the use of the gas lift in the Panhandle oil field in Texas which was announced in its Jan. 12th issue. The article will appear in the next issue or possibly later.

By means of recirculation, and the proper application thereof to a properly constructed vaporizor, a uniform, or practically uniform heat input for the entire circumference of the tube is assured.

Desired Heat Transfer Obtained

IN other words, a great volume maintained, filling the entire chamber, surrounding the vaporizing elements and moving at a high velocity under a slight pressure makes it possible to obtain whatever heat transfer may be required from a square foot of heating surface, or you may obtain the exact heat transfer per second, or minute, or hour, per pound of oil being treated.

It is interesting to note the remarkably low CO_2 content desired for commercial operation and best results necessary in combustion gases with recirculation. I am not finding fault with perfect CO_2. However, as understood in general and where it is accepted as a commercial fact, there is great fault to be found with the theory. I have never concerned myself so much about theories as I have about actual results. Results, and results alone, count with me and should count with every operator in every refinery of this most noble industry.

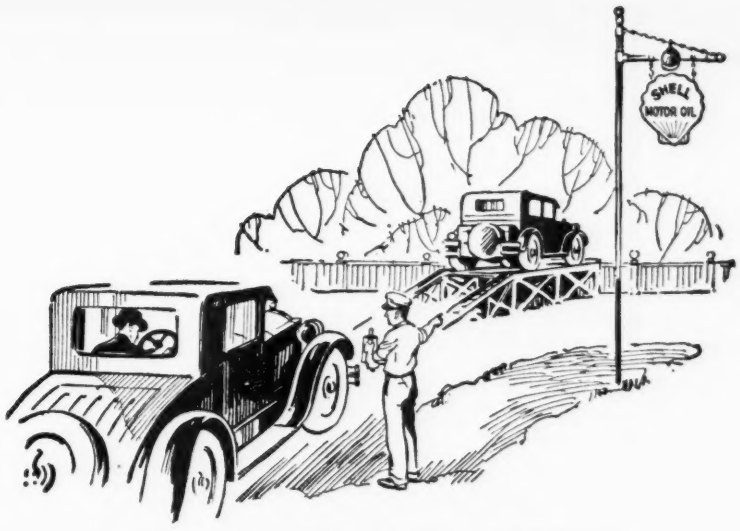
The heat chart in the Lientz recirculating bulletin shows an average condition of several commercial cracking units, and is calculated upon the basis of 1000 barrels of oil throughput, oil in the unit at 350 degrees F., out of the unit at 900 degrees F., specific heat used, .83, heat absorbed by the oil, 95,000 B. t. u. per minute, CO_2 carried, 5 per cent or 210 per cent excess volume, furnace temperature, 1400 degrees, spent gas temperature, 900 degrees.

On this basis the standard firing conditions without using recirculation gives the following result: Total heat input—237,500 B. t. u. from fuel per minute, total heat absorbed by oil—95,000 B. t. u. per minute or 40 per cent, heat unaccounted for, which represents radiation loss, etc., 23,750 B. t. u. per minute or 10 per cent, heat spent to the stack at 900 degrees, 118,750 B. t. u. per minute, which equals 50 per cent, pounds of gas made, 564 per minute or a total of 26,000 cubic feet per minute at 1400 degrees F., which gives a total gas ejected to the stack at 900 degrees of 18,615 cubic feet per minute.

Results With Recirculation

WITH the Lientz recirculating system, when recirculating approximately 75 per cent of the spent gases from the unit and rejecting from the air preheater the balance of the spent gases, the heat balance will be as follows: Heat in recirculation gases—87,050 B. t. u. per minute heat returned in preheated air—17,450 B. t. u. per minute, heat required from the fuel, 133,000 B. t. u. per minute.

It is readily seen that without recirculating, the heat required from the fuel is 237,500 B. t. u. per minute to carry on the operation, and by recirculation 104,500 B. t. u. per minute is saved. This 104,500 B. t. u. represents 44 per cent of



Dependable Oil—
Dependable Sales—Dependable Profits

The jobber who handles *Shell* Motor Oil is building his business on a permanent and profitable basis.

1 He can *depend* on the unvarying quality of the oil itself.

2 He can *depend*, in advance, on a steady, increasing demand, which means *sales* for his dealers and himself.

3 Being assured of good oil and steady sales, he can *depend* on steady and growing *profits*, as the margin on *Shell Motor Oil* is attractive.

Write for particulars—learn how the Shell Motor Oil Franchise will open to you the door of bigger, better business.

Roxana Petroleum Corporation

Shell Building*—Shell Corner—*St. Louis

Branch Sales Offices: Chicago, Illinois, 624 South Michigan Ave. • • • Kansas City, Missouri, Federal Reserve Bank Building • • • Tulsa, Oklahoma, Mayo Building • • • Indianapolis, Indiana, Meyer-Kiser Bank Building Cleveland, Ohio, • • • Guarantee Title Building. *Refineries:* Wood River, Illinois • • • Arkansas City, Kansas

Address all communications to St. Louis Office.

SHELL
MOTOR OIL

QUALITY AND A GOOD NAME

the total heat input, or in other words, reduces the heat input from fuel 44 per cent.

In working the heat balances for yourself from the data I have just given you, I wish to call your attention to the fact that only 5 per cent CO_2 is used in each case. You will find the result of your heat balance shows that without recirculation the heat absorbed and unaccounted for by radiation loss, etc., is only 50 per cent, while with recirculation, allowing the same radiation loss, we account for 89.28 per cent of the total fuel input. Thus it will be seen that the heat balance and efficiency I have just given you have been based on the preventable losses which are measurable. It is not theory. It is an established fact.

However, these results are the average, as I have stated, of a number of different types of cracking units. In a very efficient cracking unit or heat absorbing machine, we easily account for in our heat balance, 93 per cent of the total heat from fuel, and in a direct firing furnace pipe still, properly constructed and insulated, we are accounting for 95 per cent of the total heat input from the fuel.

In conclusion I urge you to view your problems in high temperature furnaces from the standpoint of furnace design, as the solution lies in your obtaining the correct furnace design and construction. Likewise, in low temperature furnace problems you will find the answer to your problem of fuel economy also the answer of your maintenance cost and many other problems which I have only suggested, in recirculation which must be balanced out so as to make the proper and effective application of heat.

Mortality Rate for Gas Stations In 1926 Given as One in Four

MILWAUKEE, Jan. 15

"ONE out every four oil marketing outlets went broke in 1926 and more tombstones will be erected this year," F. W. Lovejoy, Vacuum Oil Co., New York, told the Wisconsin Independent Oil Jobbers Association at their convention here Jan. 10, 11 and 12.

One principal reason for lack of success of service stations, he said, was the insistence of the proprietors in trying to sell the public what they believed it should buy, rather than handling what has been proven the public wants to buy.

Mr. Lovejoy created a great deal of comment with his address, entitled "Distribution Without Representation." "Most of us should scrap all of our ideas on distribution and start over," he said.

The average filling station has five months out of the year of "slack time," he said, defining slack time as a period of at least an hour when the station did not do enough business to pay for its own help and overhead. Mr. Lovejoy said no manufacturer had ever made a success at retailing, and that big oil companies have invested sums in service station sites upon which the station's profits will not pay 6 per cent interest.

He tactfully ridiculed the oil jobber for being so careful in selecting salesmen to call on the retail trade while employing service station men at random, when the filling station man holds his employer's reputation in his hands, "Some companies have a turnover of 100 to 200 per cent per year in service station employes," he declared.

Warns of Expansion

L. V. NICHOLAS, president of the National Petroleum Marketers' Association, was enthusiastic in approval of what Mr. Lovejoy had said previously. He pointed out he had warned the oil jobbers in his association for five years against building out of proportion to available gallonage.

Mr. Nicholas, giving figures from the books of some marketing companies he knows, showed how these companies have built many stations and increased their gallonage the last five years, but have not procured their expected share of the increased business in the neighborhood. He showed a few cases where firms had increased their overhead with stations until they are now selling less gallonage per station, making considerably less profit per gallon and virtually dependent upon today's wide margins in order to exist.

"Many Independents have prospered," he said, "not because of being capable business men, but because we happen to constitute the kind of competition for the big interests that the public wants to patronize.

Commercial Arbitration

HARRY S. WOLLHEIM, Milwaukee, a representative of the American Arbitration Association, discussed "Commercial Arbitration." After his talk the Wisconsin oil men adopted a resolution addressed to the state legislature favoring the passage of the model arbitration measure gotten up by the arbitration association, as a basis of settlement for purely commercial disputes.

Mr. Wollheim pointed out that the average civil suit in Milwaukee involved about $200 and required a year to settle through the courts because of crowded dockets. "An arbitration proceeding, unlike a court action, permits litigants to come out of the controversy friends instead of enemies. It is quick, and it is economical. An arbitrated question is settled by persons within a given industry and does not necessitate the education of a panel of ignorant jurors before they are able to pass upon the facts."

C. W. Hunt, chairman of the Federal Trade Commission, Washington, described the mechanical workings of the bureau over which he presides.

E. F. Dahm of the La Salle Extension University addressed the oil men on Wednesday afternoon on "An Outsider's View of the Oil Industry."

T. A. Boyd, of the research laboratories of the General Motors Corp., Detroit, on the topic "Nine Popular Misconceptions About Gasoline," told some of the facts about this product as a motor fuel the jobber can profitably keep in mind. He has spoken along similar lines at other oil meetings.

* * *

Wisconsin Independent Oil Jobbers Association has decided to dicontinue its collective advertising program. For three years the organization has advertised the Spread Red Eagle their mutual emblem on poster panels over the state.

This advertising never carried the name of any member oil company. It said simply, "Buy at this sign" and showed the emblem which all Wisconsin jobbers use at their stations. For a time this advertising was also carried in most daily papers of the state. That was discontinued about a year ago.

Now the Independents have decided to concentrate on exhibiting the emblem at their own stations, give up the poster advertising for a while, and spend money individually with the "Land 'O Lakes" movement. The Land 'O Lakes organization functions something like a state chamber of commerce to bring southern tourists into Wisconsin in summer.

* * *

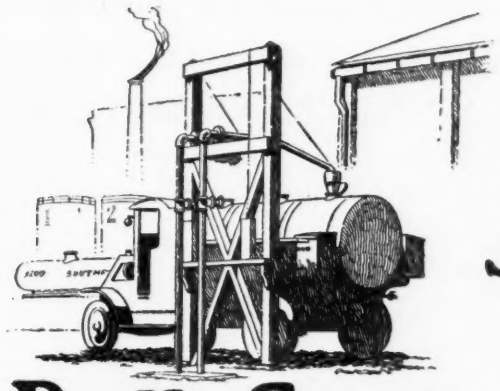
National Petroleum Marketers' Association will be invited by the Wisconsin Independent Oil Jobbers Association to hold its, autumn, national convention in Milwaukee.

Tulsa Geologists Pick New Officers

TULSA, Jan. 15.—A. L. Beekly, of the Mid-Continent Petroleum Corp., has been elected president of the Tulsa Geological Society for 1927, succeeding A. F. Truex, chief geologist for the Twin State Oil Co. The new vice-president is G. C. Potter, of the Tidal Oil Co. E. O. Markham, in charge of the sub-surface department of the Carter Oil Co., was elected secretary-treasurer.

In addition to the officers, the council will consist of W. R. Hamilton, geologist and oil operator, Miss Constance Eirich, Gypsy Oil Co., and Burr McWhirt, Roxana Petroleum Corp., all of Tulsa.

The society had a successful year in 1926, all of the monthly technical sessions having been well attended. Membership was built up to well above 200 during the year, the highest it has ever attained. The society was instrumental in having Tulsa selected as headquarters for the American Association of Petroleum Geologists, and also in securing the 1927 annual convention of that association, to be held late in March.



BYRON JACKSON

Bulk Station Pumps

Byron Jackson Centrifugal Pumps are standard equipment with many oil companies. With electric motor drive and push button control the drivers of tank trucks can quickly and safely load their trucks with a minimum of attention from the station attendant.

No by-passes or relief valves are required at the pumps, as the discharge line valve may be closed while the pump is at full speed without danger to either pump or lines.

These pumps are packed with special gasoline resisting packing.

BYRON JACKSON Service PUMP MFG. CO.

BYRON JACKSON PUMP MFG. CO., Inc.

Wherever oil is to be moved

Factory and Main Office:
BERKELEY, CAL.

Branches: **San Francisco, Los Angeles, Visalia, Portland, Ore., Salt Lake City**

Compilation Of Mid-Continent Refinery Operations

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National Petroleum News

Mid-Continent Refinery Operations Week Ended Jan. 14 (By Telegraph)

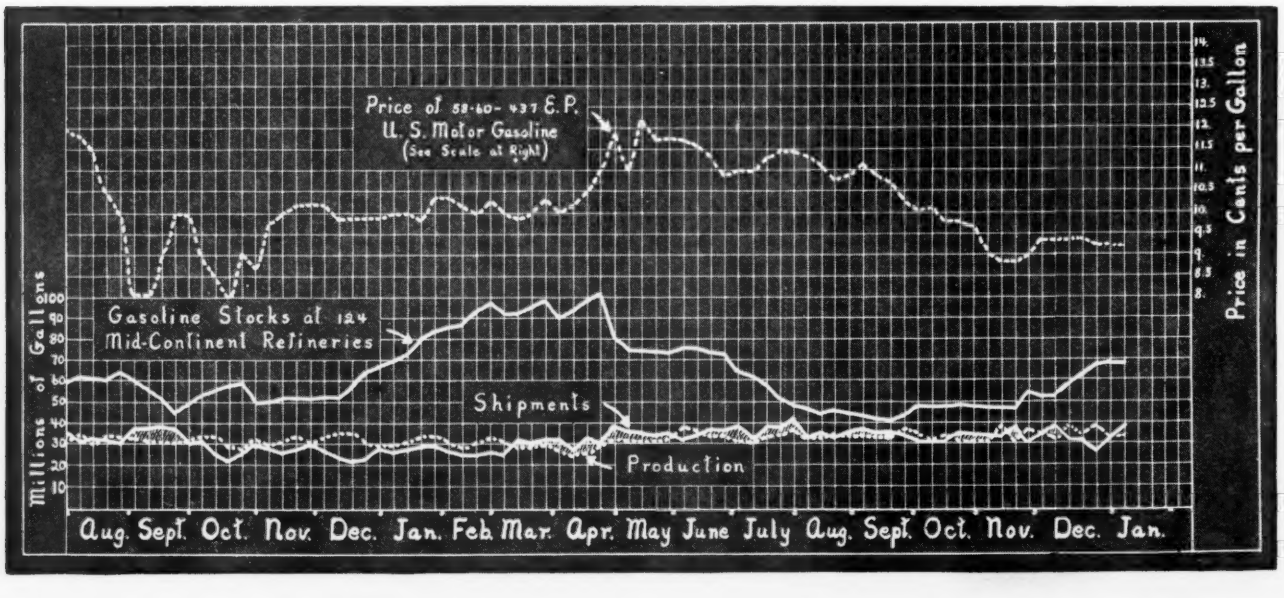
	Kansas	Oklahoma	North and Cent. Texas	North La.-Ark.	Total Week Ended Jan. 14	Total Week Ended Dec. 17
Plants Reporting	23	46	41	14	124	124
Crude Cap. (Bbls.)	98,200	165,900	144,300	53,700	462,100	462,100
Cracking Capacity	21,000	45,800	15,750	20,200	102,750	102,750
Da. Av. Crude Runs	54,600 +0.02	101,681 + 1.9	71,544 + 18.7	49,744 — 2.7	277,629 + 4.4	290,281
Da. Av. Other Oils	4,670 +49.3	1,682 —42.4	5,414 — 5.3	772 —48.2	12,538 — 5.4	12,076
GASOLINE—Gallons						
Stocks Jan. 7	11,212,215	43,968,141	10,596,072	2,340,389	68,116,817	51,531,857
Prod. 1-7 to 1-14	8,328,588 +14.1	15,127,622 + 1.4	7,481,602 + 18.2	3,535,650 +11.5	34,473,462 + 8.7	36,939,978
Ship. 1-7 to 1-14	8,724,724 + 9.9	16,160,789 +27.5	6,105,182 — 5.6	3,569,550 + 8.8	34,560,245 +13.8	31,869,007
Stocks Jan. 14	10,816,079 — 3.5	42,934,974 — 2.3	11,972,492 + 13.0	2,306,489 — 1.4	68,030,034 —0.1	56,599,828
Ratio Sales to Prod	104.8%	106.8%	81.6%	101.0%	100.3%	86.3%
KEROSENE—Gallons						
Stocks Jan. 7	3,459,077	6,335,148	2,053,321	1,073,272	12,920,818	11,264,815
Prod. 1-7 to 1-14	1,427,061 —11.6	2,340,605 +27.8	1,423,758 + 5.8	592,058 +24.8	5,783,482 + 9.8	6,254,577
Ship. 1-7 to 1-14	1,540,492 +17.5	2,475,443 +23.8	1,487,857 + 14.3	464,800 +73.3	5,968,592 +22.3	6,143,197
Stocks Jan. 14	3,345,646 — 3.3	6,200,310 — 2.1	1,989,222 — 3.1	1,200,530 +11.9	12,735,703 — 1.4	11,376,195
Ratio Sales to Prod	107.9%	105.8%	104.5%	78.5%	103.2%	
STOVE DISTILLATE—Gallons						
Stocks Jan. 7	3,762,678	4,577,671	1,379,578	208,356	9,928,283	12,046,372
Prod. 1-7 to 1-14	954,718 +46.9	772,655 — 2.2	280,791 — 17.7	90,819 +16.2	2,098,983 +12.9	2,131,758
Ship. 1-7 to 1-14	1,258,686 +32.6	763,911 —16.2	296,734 + 5.3	151,789 +50.0	2,471,120 +10.1	3,188,300
Stocks Jan. 14	3,458,710 — 8.1	4,586,415 + 0.2	1,363,635 — 1.2	147,386 —29.3	9,556,146 — 3.7	10,989,830
Ratio Sales to Prod	131.8%	98.9%	105.7%	167.1%	117.7%	149.6%
GAS OIL—Gallons						
Stocks Jan. 7	3,528,547	30,970,660	10,114,056	2,547,320	47,160,583	48,057,954
Prod. 1-7 to 1-14	1,333,411 +17.5	2,242,286 —33.0	1,496,482 + 20.3	2,214,846 — 4.7	7,287,025 — 9.5	8,668,557
Ship. 1-7 to 1-14	1,393,362 — 6.4	1,923,996 —47.3	1,371,838 +312.3	1,883,307 —21.1	6,572,503 —16.4	8,152,013
Stocks Jan. 14	3,469,596 — 1.7	31,288,950 + 1.0	10,238,700 + 1.2	2,878,859 +13.0	47,875,105 + 1.5	48,574,498
Ratio Sales to Prod	104.5%	85.8%	91.7%	85.0%	90.2%	94.0%
FUEL OIL—Gallons						
Stocks Jan. 7	8,604,859	56,864,107	10,655,065	8,510,366	84,634,397	99,874,160
Prod. 1-7 to 1-14	4,929,124 — 6.5	6,661,625 + 4.8	8,477,598 + 12.0	7,791,568 — 2.6	27,859,915 + 2.5	30,213,985
Ship. 1-7 to 1-14	4,973,335 —26.0	9,095,562 — 5.5	8,125,846 + 7.9	8,592,840 + 4.7	30,787,583 — 4.0	31,158,686
Stocks Jan. 14	8,560,648 — 0.5	54,430,170 — 4.3	11,006,817 + 3.3	7,709,094 — 9.4	81,706,729 — 3.5	98,929,459
Ratio Sales to Prod	100.9%	136.5%	95.9%	110.3%	110.5%	103.1%

Gasoline Produced by Various Methods, Week Ended Jan. 14

	Kansas	% of Total	Oklahoma	% of Total	Texas	% of Total	Louisiana-Arkansas	% of Total	Total	% of Total
Straight Run	5,620,061	67.5	11,454,377	75.7	6,176,133	82.5	1,275,930	36.1	24,526,501	71.7
Cracked	2,348,167	28.2	2,833,833	18.7	1,171,573	15.7	1,979,454	56.0	8,333,027	24.2
Natural	260,360	4.3	839,412	5.6	133,896	1.8	280,266	7.9	1,613,934	4.7
Total	8,328,588		15,127,622		7,481,602		3,535,650		34,473,462	

+ or — columns are % change over previous week.

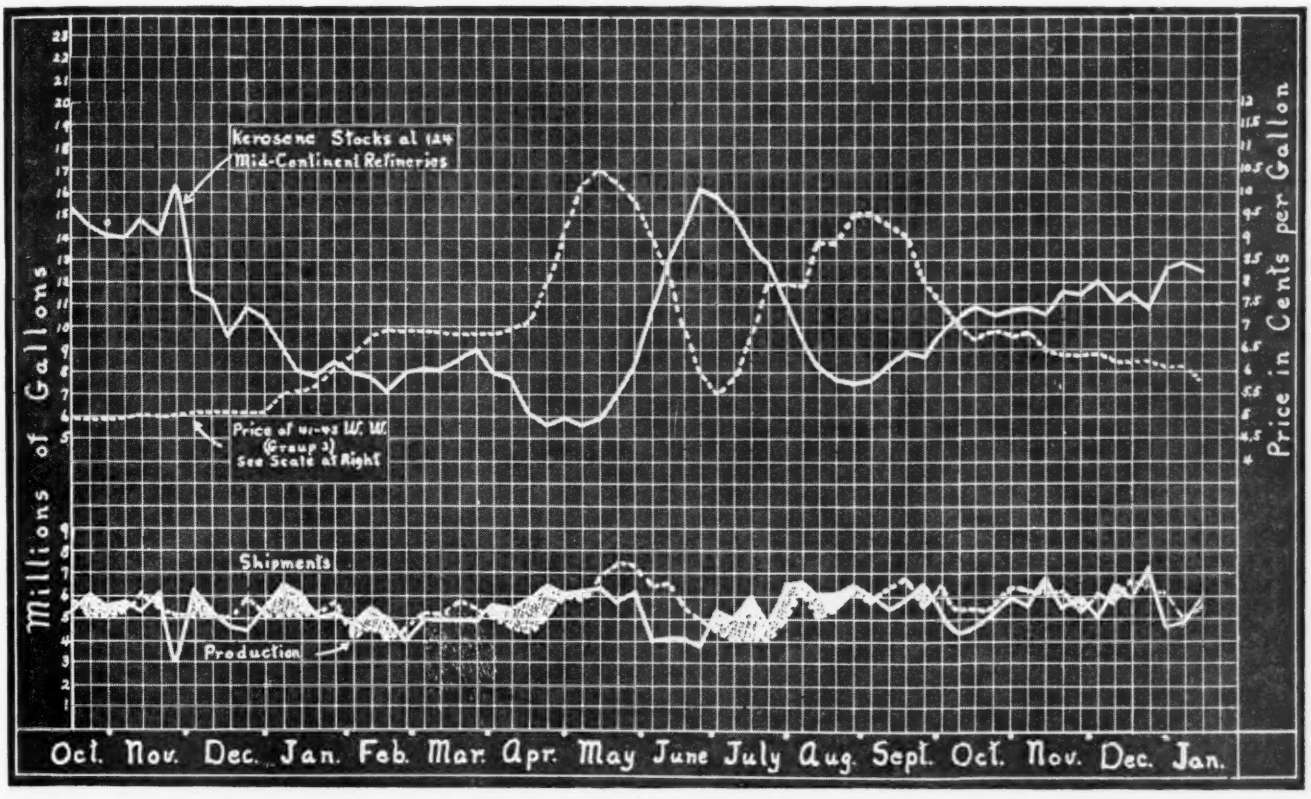
GASOLINE


Price of 58-60- 437 E.P.
U. S. Motor Gasoline
(See Scale at Right)
Gasoline Stocks at 124
Mid-Continent Refineries
Shipments
Production
Millions of Gallons
Price in Cents per Gallon
Aug. Sept. Oct. Nov. Dec. Jan. Feb Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan.

Barometer of Mid-Continent Refinery Market—Week Ending Jan. 14

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 124 Plants to National Petroleum News

KEROSENE


Millions of Gallons
Price in Cents per Gallon
Kerosene Stocks at 124 Mid-Continent Refineries
Price of W.-W. W. W. (Group 3) See Scale at Right
Shipments
Production
Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan.

Stocks of All Leading Products Are Reduced

Staff Special By Telegraph

TULSA, Jan. 18

OKLAHOMA refiners that report weekly operations figures to National Petroleum News, reduced their gasoline stocks aproximately 1,000,000 gallons in the week ended Jan. 14. This was the first time this group has been able in the last 30 days to show shipments larger than production.

Shipments from Oklahoma plants totaled 16,160,789 gallons, an increase of approximately 3,500,000 gallons over the total for the week ended Jan. 7, and the largest total since the week ended Aug. 27. Four other weeks during this period shipments were above 16,000,000 gallons but the closest was for the week ended Nov. 12 when the total was 16,-109,372.

The Kansas and Louisiana-Arkansas groups also reduced stocks but the north Texas group added 1,300,000 gallons to stocks causing a net reduction in stocks at 124 plants of approximately 100,000 gallons.

Stocks of gasoline on hand at virtually the same group of plants on Jan. 15, 1926, totalled 72,532,000 gallons as compared with 68,030,000 gallons on hand last Friday. Shipments for the week ended Jan. 15, 1926, totalled 29,909,000 gallons while production was 30,508,000 gallons. Last week shipments were 34,560,000 gallons and production 34,-473,000 gallons.

The north Texas refiners increased crude charges to stills 11,300 barrels daily average which accounted for an increase in gasoline production of 1,-160,000 gallons over the total for the preceding week. Shipments from that territory fell off approximately 300,000 gallons. Crude charges were practically unchanged in Kansas and were increased 1800 barrels daily average in Oklahoma. The Louisiana-Arkansas group reduced crude runs 1300 barrels daily average.

Kerosene production was increased 500,000 gallons over the total for the week ended Jan. 7 but shipments more than kept pace with this increase, the total movement for the week being 5,-968,592 gallons, an increase over the preceding week of approximately 1,000,000 gallons. Stocks were reduced approximately 200,000 gallons to 12,745,708 gallons, a volume 4,000,000 gallons more than was held in storage at the corresponding time last year.

Production of stove distillate at Kansas plants was increased 46.9 per cent over that of the week ended Jan. 7, while shipments went to 1,258,000 gallons. Oklahoma refiners held down their distillate production while shipments also fell off. They were the only group that failed to move more than their production for the week. Total

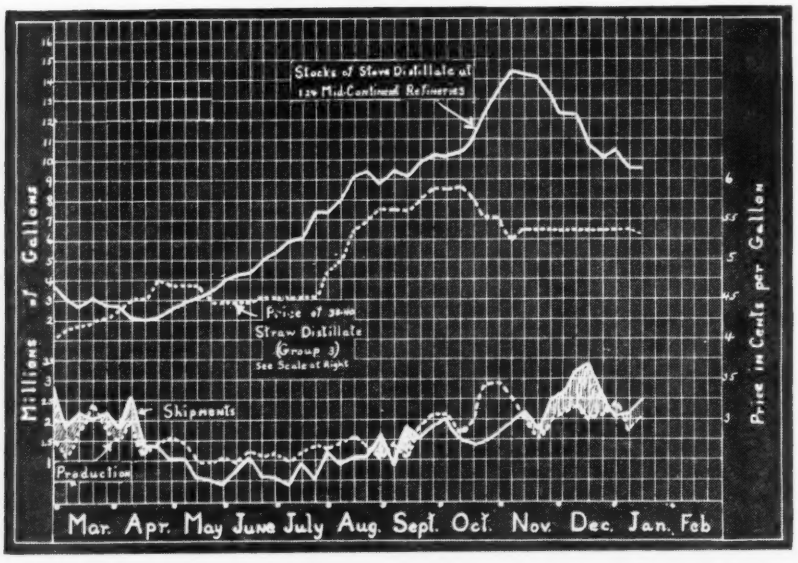
Summary for the Month

Production and shipments, all reporting refineries, for four weeks ended Jan. 14. Change in stocks figured from Dec. 17.

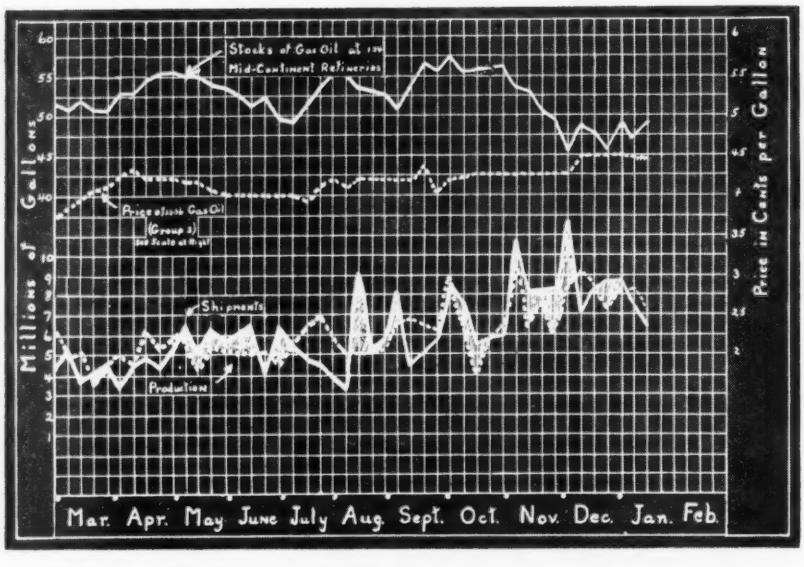
	Gallons
Gasoline	
Production	135,101,177
Shipments	123,670,971
Net change in stocks	+11,430,206
Ratio sales to production	91.5%
Kerosene	
Production	23,860,985
Shipments	22,501,472
Net change in stocks	+1,359,513
Ratio sales to production	94.3%
Stove Distillate	
Production	8,156,538
Shipments	9,590,222
Net change in stocks	—1,433,684
Ratio sales to production	117.6%
Gas Oil	
Production	31,098,672
Shipments	31,798,065
Net change in stocks	—699,393
Ratio sales to production	102.2%
Fuel Oil	
Production	113,442,549
Shipments	130,665,279
Net change in stocks	—17,222,730
Ratio sales to production	115.2%

Barometer of Mid-Continent Refining Market—Week Ending Jan. 14

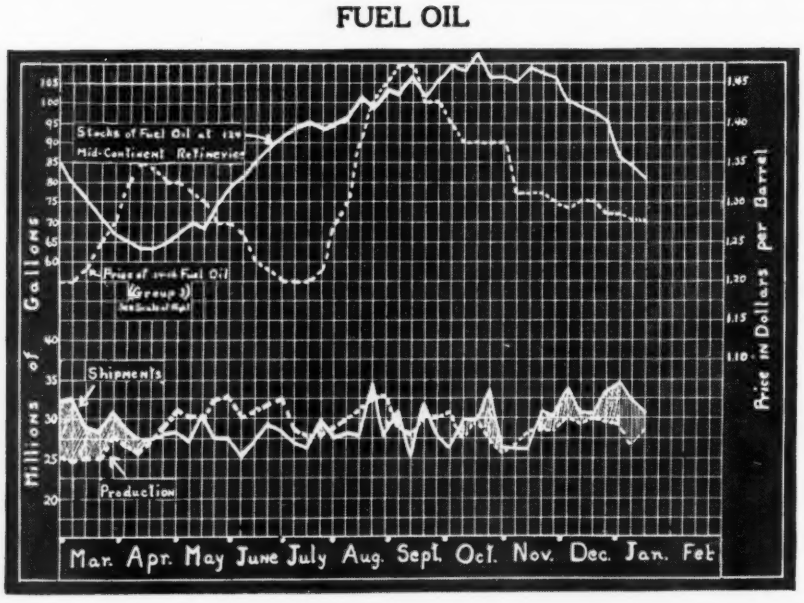
STOVE DISTILLATE


Stocks of Stove Distillate at 124 Mid-Continent Refineries
Price of 28-66 Straw Distillate (Group 3) See Scale at Right
Shipments
Production
Millions of Gallons
Price in Cents per Gallon
Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb.

GAS OIL


Stocks of Gas Oil at 124 Mid-Continent Refineries
Price of 36-40 Gas Oil (Group 2)
Shipments
Production
Millions of Gallons
Price in Cents per Gallon
Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb.

FUEL OIL


Stocks of Fuel Oil at 124 Mid-Continent Refineries
Price of 26-36 Fuel Oil (Group 1)
Shipments
Production
Millions of Gallons
Price in Dollars per Barrel
Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb.

stocks of distillates at the 124 plants were reduced 372,000 gallons.

For the four weeks ended Jan. 14 distillate stocks have been reduced 1,433,684 gallons. Stocks on hand are approximately 2,500,000 gallons less than at the same time last year.

Both production and shipments of gas oil continued to slip with Kansas refiners the only ones showing shipments greater than production. Stocks were increased approximately 700,000 gallons. Shipments for the four weeks ended last Friday, however, outweighed production with the result that stocks for that period have been reduced 699,000 gallons.

The heavy draft on fuel oil stocks continued last week although shipments fell under the total for the week ended Jan. 7. Production of fuel oil 600,000 gallons while shipments totaled 30,787,583 gallons, a fall of 1,200,000 gallons. Stocks were reduced 2,900,000 gallons to 81,706,529 gallons. This total is 24,000,000 gallons less than for this time last year. For the four-week period fuel stocks have been reduced 17,222,730 gallons.

Prairie Shipments Up in December

TULSA, Jan. 15.—Shipments of the Prairie Pipe Line Co. were greater during December, 1926, than any month since May, totaling 4,331,958 barrels. This was an increase of 249,950 barrels over November, when the company shipped 4,082,008 barrels through its lines. December's movement represented a daily average of 139,741 barrels, as compared with 136,067 barrels daily during November, an increase of 3674 barrels.

Prairie Pipe Line Co. shipments during 1926 were as follows:

Month	Shipments	Daily Average
January	4,187,390	135,077
February	4,071,405	145,407
March	4,588,038	148,001
April	4,332,972	144,432
May	4,542,260	146,525
June	4,215,416	140,514
July	4,234,294	136,590
August	4,005,485	129,209
September	3,906,979	130,233
October	4,190,377	135,819
November	4,082,008	136,067
December	4,331,958	139,741

ROXANA ACQUIRES MORE SPACE

CHICAGO, Jan. 14.—Roxana Petroleum Corp., which occupies almost all of the top floor of the Blum Bldg., 624 S. Michigan Ave., recently acquired space on the eighth floor. It will be occupied by W. K. Evans, who is in charge of the office, and the tank car sales department run by George Couture and Fred Rice.

GRAND RAPIDS, Mich., Jan. 15.—Wayne C. Hughes, secretary of the Michigan Independent Oil Men's Association has arranged to entertain the representatives of 36 exhibitors, who will display their goods at his association's coming meeting in Detroit, with a smoker at Webster Hall in Grand Rapids on Wednesday night, Jan. 19.

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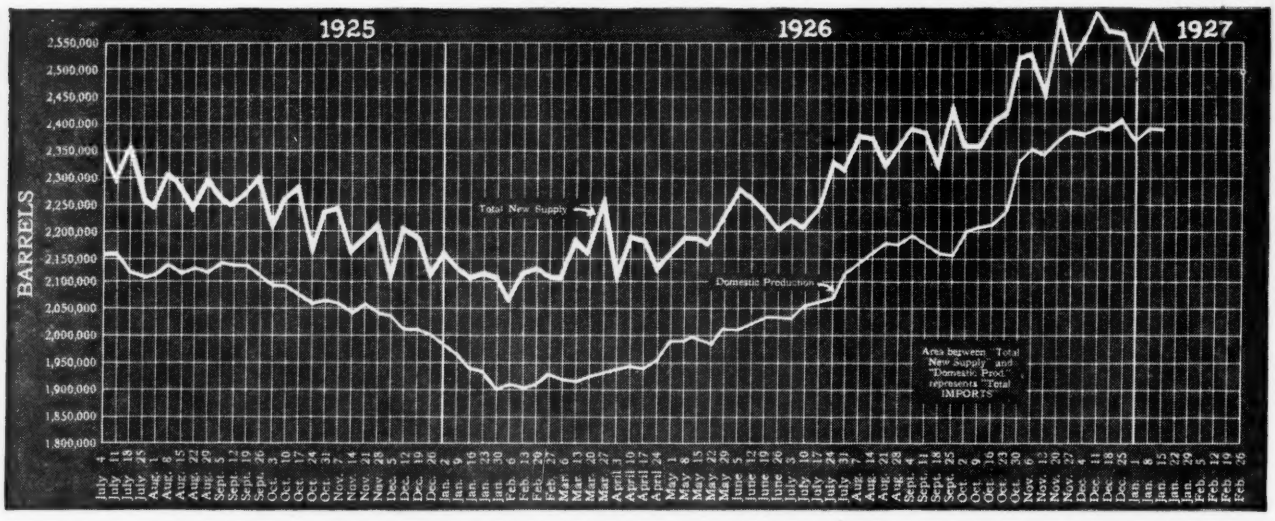
Daily Average Crude Oil Production and Imports



Daily average gross output of United States, by fields, for week ending with dates below, as compiled by American Petroleum Institute

PRODUCTION SUMMARY

	Jan. 15	Jan. 8
Production east of Rockies	1,739,500	1,731,050
Increase		8,450
Total Production in U. S.	2,391,000	2,389,850
Increase		1,150
Crude Oil Imports	156,000	220,143
Decrease		64,143
Total Crude Supply	2,547,000	2,609,993
Decrease		62,993

OKLAHOMA

	Jan. 15	Jan. 8
North Braman	12,450	13,650
South Braman	4,750	4,850
Blackwell	4,150	4,150
Hubbard	7,100	7,200
Thomas	1,950	1,850
Tonkawa	27,250	26,100
Garber	19,350	19,050
Burbank	48,100	47,750
Osage, outside Burbank	36,150	35,350
Watchorn	2,700	2,750
Cushing	21,500	21,500
Yale Jennings	12,450	12,500
Davenport	4,550	4,450
Bristow-Slick	27,400	27,350
North Okmulgee	17,250	17,250
Lyons-Deaner	4,500	4,500
Stroud	1,650	1,900
Cromwell	13,950	13,850
Papoose	8,200	8,100
Wewoka	23,750	23,900
Seminole	172,700	167,100
Duncan district	7,000	6,850
Graham	9,000	8,700
Fox	1,900	1,900
Healdton	15,100	15,150
Scholem Alechem	10,750	10,500
Hewitt	10,500	10,700
Earlsboro	9,150	9,100
Others	59,400	59,200
Total Oklahoma	594,650	587,200
Increase		7,450

KANSAS

Greenwood County	44,500	44,100
Florence-Covert	1,950	1,950
Peabody-Elbing	3,950	3,950
Eldorado-Towanda	13,300	13,350
Augusta-Fox-Bush	4,850	4,850
Rainbow Bend	3,250	3,100
Russell	4,100	4,150
Churchill	14,000	11,900
Others	29,000	29,250
Total Kansas	118,900	116,600
Increase		2,300

NORTH LOUISIANA

Homer	5,250	5,350
Haynesville	8,400	8,350
Caddo, light	9,950	10,200
Caddo, heavy	4,050	4,300
De Soto, Red River	4,100	4,150
Elm Grove	650	600
Bellevue	1,650	1,650
Cotton Valley	6,550	6,550
Urania	12,700	10,000
Total North Louisiana	53,300	51,150
Increase		2,150

ARKANSAS

	Jan. 15	Jan. 8
El Dorado	6,150	6,200
Smackover, light	12,500	12,550
Smackover, heavy	105,700	105,300
Stephens	1,450	1,450
Nevada	1,850	1,850
Others	300	350
Lisbon	5,600	5,550
Total Arkansas	133,550	133,250
Increase		300

TEXAS (OUTSIDE GULF COAST)

Panhandle District

	Jan. 15	Jan. 8
Hutchinson County	124,200	122,500
Gray County	5,000	9,450
Carson County	9,750	4,300
Wheeler County	1,450	1,250
Others	50	50
Total Panhandle District	140,450	137,550
Increase		2,900

North Texas

Burkburnett	14,700	14,600
Electra	16,200	16,100
Iowa Park and K-M-A	5,100	4,950
Wilbarger	15,850	16,100
Archer County	34,800	35,200
Montague-Cooke	13,650	13,450
Others	1,050	1,050
Total North Texas	101,350	101,450
Decrease		100

West Central Texas

Stephens County	10,300	10,650
Eastland-Desdemona	5,900	5,950
Brown County	16 850	16,800
Coleman County	1,700	1,700
Callahan County	5,750	5,600
Shackelford County	15,300	15,200
Young County	8,900	8,750
Throckmorton County	2,400	2,400
Palo Pinto County	450	450
Jones County	1,850	2,450
Mitchell and Scurry Counties	3,950	3,900
Howard County	1,500	1,400
Reagan County	28,450	28,800
Crane and Upton Counties	29,800	27,650
Others	3,100	2,100
Total West Central Texas	136,200	133,800
Increase		2,400

East Central Texas

	Jan. 15	Jan. 8
Mexia	11,600	11,450
Currie	700	700
Richland	1,400	1,400
Wortham	5,900	6,050
Corsicana-Powell	23,800	24,200
Nigger Creek	9,000	9,150
Total East Central Texas	52,400	52,950
Decrease		550

Southwest Texas

	Jan. 15	Jan. 8
Luling	18,150	18,200
Lytton Springs	2,900	2,900
Somerset	1,850	1,850
Laredo District	15,800	16,200
Piedras Pintos	450	450
Others	650	650
Total Southwest Texas	39,800	40,250
Decrease		450
Total Texas (Outside Gulf Coast)	518,600	466,000
Increase		52,600

GULF COAST

Coastal Texas

West Columbia	11,700	12,800
Damon Mound	950	1,000
Big Creek	2,400	2,750
Boling	2,800	2,800
Blue Ridge	3,100	3,850
Pierce Junction	4,800	5,850
Humble	4,300	4,250
Goose Creek	7,800	7,800
South Liberty	4,400	4,400
Hull	19,300	19,350
Saratoga	1,300	1,250
Batson	1,750	1,700
Sour Lake	4,600	4,750
Spindletop	88,550	88,750
Orange County	6,300	6,650
Others	2,750	2,700
Total Coastal Texas	166,800	170,650
Decrease		3,850

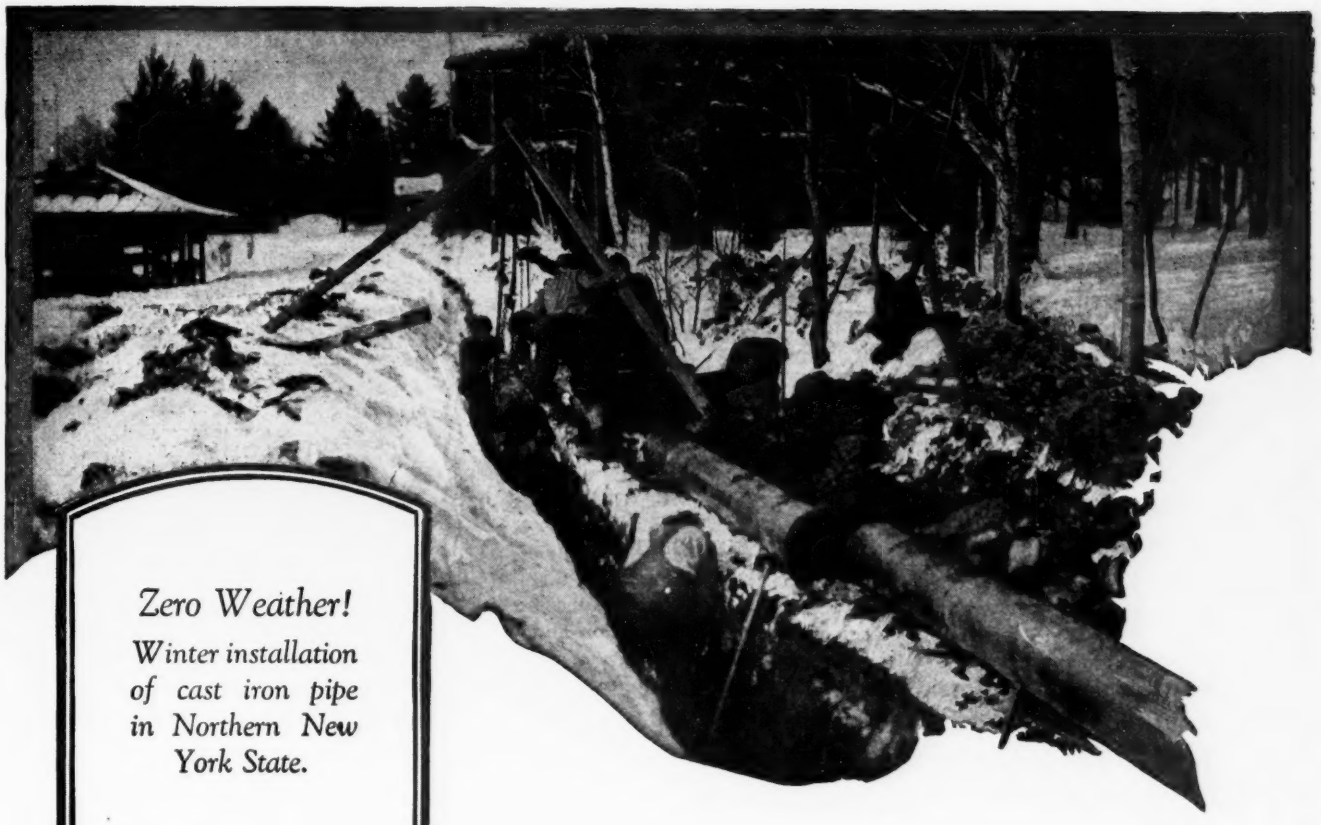
Coastal Louisiana

Vinton	5,800	5,750
Lockport	3,350	4,250
Evangeline	1,300	1,300
Edgerly	550	550
Others	1,150	1,150
Total Coastal Louisiana	12,150	13,000
Decrease		850
Total Gulf Coast	178,950	183,650
Decrease		4,700

ROCKY MOUNTAIN

Wyoming

Salt Creek	39,250	42,250
Grass Creek	3,000	2,950
Elk Basin	800	700
Big Muddy	2,950	2,900
Lost Soldier	4,850	5,050
Rock River	2,850	2,750
Lance Creek	750	750
Teapot Dome	1,000	1,050



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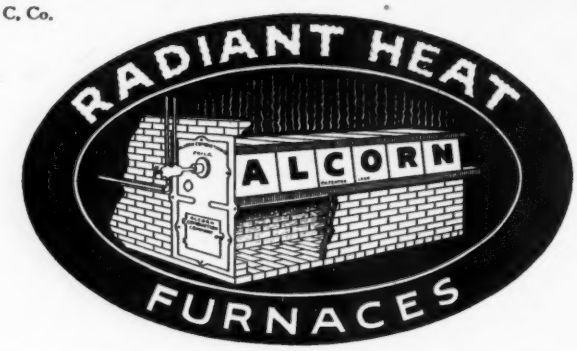

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Chemical Engineers

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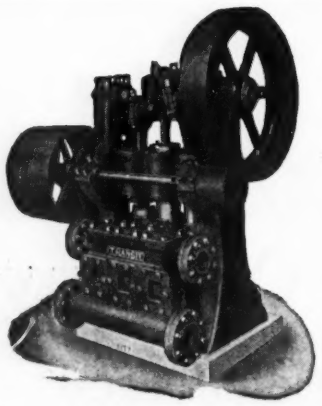


TRANSIT
Refinery
PUMPS

Bulletins on Request.

National Transit Pump & Machine Co.

OIL CITY, PA.

District Offices: New York, Philadelphia, Tulsa, Cleveland, Pittsburgh, Houston and Denver.

Others	1,550	1,500
Total Wyoming	57,000	59,900
Decrease		2,900
Montana		
	Jan. 15	**Jan. 8**
Cat Creek	2,450	2,400
Sunburst	10,000	9,000
Others	150	150
Total Montana	12,600	11,550
Increase		1,050
Colorado		
Moffat (Craig)	2,900	2,600
Fort Collins	4,000	4,100
Florence	450	450
Others	550	600
Total Colorado	7,900	7,750
Increase		150
New Mexico		
Artesia	2,300	2,300
Hogback	650	650
Table Mesa	400	100
Rattlesnake	1,100	2,450
Total New Mexico	4,450	5,500
Decrease		1,050
Total Rocky Mountain	81,950	84,700
Decrease		2,750
CALIFORNIA		
Santa Fe Springs	43,000	44,000
Long Beach	93,000	93,500
Huntington Beach	92,000	97,500
Torrance	26,000	26,000
Dominguez	19,000	19,000
Rosecrans	12,500	13,500
Inglewood	39,000	39,000
Midway-Sunset	90,500	91,000
Ventura Avenue	55,000	54,300
Seal Beach	9,500	9,000
Others	172,000	172,000
Total California	651,500	658,800
Decrease		7,300
EASTERN		
(Including Ill., Ind., Ky., Ohio, W. Va., Pa., and N. Y.	108,000	108,500
Decrease		500

PART OF SEMINOLE PLANT RUNNING

TULSA, Jan. 17.—Sinclair Oil & Gas Co. will complete its natural gasoline plant in the Seminole field and have it in complete operation within two weeks. Part of the plant is now running.

The plant, absorption type, is expected to produce around 60,000 gallons of gasoline per day. Twelve 170-horse power Cooper compressors will handle the gas for the plant. Distillation will be handled through two Type I Braun units and Braun coolers will be used. Two Newton absorbers are being erected.

When original announcement of the Sinclair plant was made in National Petroleum News it was erroneously stated that it was to be a Newton plant. The plant was specially designed by Sinclair engineers and used both Braun and Newton equipment.

MACMILLAN REFINERY RUNNING

TULSA, Jan. 17.—Fires were lighted under the stills of the MacMillan Refining Co. plant at Isom, Texas, in the Panhandle field Jan. 7. The plant is a 5000-barrel skimming plant and is now running about 3500 barrels per day.

General offices have been opened at 208 South Polk Street, Amarillo. R. S. MacMillan is president, and H. J. Witz in charge of tank cars sales. The company has a refinery in California.

Small Yield of Inside Completions Will Check Seminole Output

By A. F. Hinton
N. P. N. Staff Writer

TULSA, Jan. 15

OKLAHOMA production again exceeded all records last week, when it averaged 594,180 barrels a day, according to National Petroleum News estimate. For six weeks straight, the state's output has been greater than the previous high record, about 549,000 barrels daily, reached in September, 1924. That record stood unchallenged for two years and three months.

The Seminole district, comprising the field of that name, Searight, Earlsboro, and the new 8-6 pool, also set a new record last week, averaging about 182,000 barrels daily. This increase was almost entirely responsible for the gain shown by the state as a whole. Other fields made small gains, due to recovery from the cold weather of 10 days ago, but are probably due for another decline next week, as the state is now in the grip of the coldest weather of the winter.

Many wells have been completed at Seminole the past two weeks, and in general it may be said they indicate the field is due for a rapid decline in output as far as its present area is concerned. In many cases, inside locations on leases where the first one or two wells made initial productions as high as 8000 barrels a day, are coming in very light, with almost no gas pressure, and do not flow.

In addition, there have been a number of dry holes, in which only water was found in the Wilcox sand. Some of these were drilled on locations that looked almost certain for large production when the wells were started. There are still 205 operations under way at a recent count, but it is doubtful if these, when completed, will be able to do more than stem the decline of older wells.

Applies to Seminole Only

THIS condition, it should be understood, applies only to the Seminole field proper, which includes all of township 9-6, except the two most northern tiers of sections, which are generally included in the Searight area. Seminole was the first of the four fields in the vicinity discovered, and got a start of several months before the Wilcox sand was found in any of the other three pools. It has been drilled up rapidly and intensively, and probably would have reached a higher peak production if operations had not been slowed down somewhat by the shutdown brought about through an operators' agreement in November.

It is not certain even yet that the field has reached its peak, but indications are such, for the reason that the gas pressure, low when the field came in, has been exhausted, or nearly so. Probably the field's present production is as high as it is, only because of the general recourse to artificial pressure methods of flowing the wells.

Earlsboro Uncertain

WHILE Seminole may be expected to decline, the same cannot be said of the three other fields in the district, except possibly Searight. The Earlsboro field, with only one Wilcox sand well, is producing about 9500 barrels daily, and has 53 drilling operations under way, not including locations and rigs. Perhaps 10 to 12 of these wells will be brought in during the next two weeks. Inasmuch as there is only one well producing now from the Wilcox, and giving consideration to the fact that the offset to this well, which would have been in the sand this week but for an accident, is running 90 feet lower structurally than the discovery, it is impossible to estimate what this field should make when these new wells are completed. Drilling wells at Earlsboro include 28 that have not reached 2000 feet in depth, 14 drilling between 2000 and 3099 feet, nine between 3100 and 3700 feet, and two drilling below 3700 feet. The Wilcox sand is found at about 4100 feet.

In the 8-6 pool, south of Seminole, two wells are producing from the Wilcox sand, making together about 10,000 barrels a day. Since these wells came in two weeks ago, 103 wells have started up in the vicinity, the bulk of which probably will be in by April 1. The two wells already completed in the Wilcox are about a mile and a half apart, in sections 13 and 15, respectively. However, it is not known whether each represents a separate small pool, or whether another Seminole has been opened. The whole of township 8-6 will not be found productive at any rate, for a dry hole was drilled there during the past week.

Was Failure in Wilcox Sand

THIS well was the Indian Territory Illuminating Oil Co. No. 1 Sewell, in the NWc SW SW of 26-8-6, reported in these columns last week as running very low on structure and looking like a failure. It was drilled into the Wilcox at 4405 feet and had a hole full of water. This well is about two miles south of the same company's No. 1 Livingston, in section 15, one of the two Wilcox sand discovery wells, so there is plenty of room for a big field in spite of this failure.

Although operations have been started on more than 100 wells in township 8-6, actual drilling has not started on very many of these tests. On account of the bad weather and almost impassable roads of the past week, it has been difficult to get up-to-date reports. The last count showed 14 wells actually drilling in the township. Of these, three were above 2000 feet, eight between 2000 and 3099 feet, one between 3100 and 3700 feet, and two below 3700 feet. One of the two below 3700 feet was the I. T. I. O. Co. well mentioned above, since drilled into the Wilcox sand for a hole full of water.

In Searight, 15 wells should be completed in the next two weeks, which are now drilling below 3100 feet. This pool has 23 drilling wells, not including locations and rigs. It has five wells drilling above 2000 feet, three between 2000 and 3099 feet, eight between 3100

Drilling Operations in Oklahoma, Kansas and Texas

	Jan. 15					Week Ended				Jan. 8
OKLAHOMA	Loc.	Rigs	Drg.	S.D.	Total	Loc.	Rigs	Drg.	S.D.	Total
Burbank	6	15	29	...	50	7	10	32	...	49
Other Osage	10	5	38	3	56	4	7	38	4	53
Bristow-Cushing	10	20	99	9	138	11	17	99	11	138
North Oklahoma	8	16	105	42	171	10	14	109	42	175
South Oklahoma	17	19	181	36	253	20	30	166	43	259
Muskogee	..	15	41	14	70	...	13	33	18	64
Okmulgee-Bristow	3	59	114	27	203	4	61	110	27	202
Tonkawa	1	...	6	4	11	1	1	7	2	11
Seminole Dist	43	76	372	37	528	23	62	352	48	485
Total Oklahoma	98	225	985	172	1480	80	215	946	195	1436
KANSAS	49	81	210	115	455	49	81	210	115	455
TEXAS										
Central Texas	..	165	255	181	601	...	99	217	148	464
East Texas	..	4	8	15	27	...	4	8	15	27
Panhandle	..	110	244	100	454	...	174	280	93	547
N. Central Tex	..	57	98	39	194	...	56	88	37	181
W. Texas	..	73	175	54	302	...	99	151	92	342
Total Texas	...	409	780	389	1578	...	432	744	385	1561
GRAND TOTAL	147	715	1975	676	3513	129	728	1900	695	3452

Analysis of Drilling Operations by Companies in the Seminole, Searight, Earlsboro, and 8-6 Field, Oklahoma

SEMINOLE—all of township 9-6, except sections 2, 3, 4 and 10

Company	Locs.	Rigs	Less than 2000′	2000′-3099′	3100′-3700′	Below 3700′	Total
Carter		8	7	3	3	19	40
I. T. I. O.	1		2	2	3	10	18
Mid-Continent		1	2	1	5	4	13
Texas Co.		2		1			3
Gypsy	1	2		1	2	10	16
Tidal		1	1	3	5	6	16
McCulloch					1		1
Wrightsman						1	1
Kingwood		2	3	1			6
Roxana		1	1		2		4
Sinclair		1		1	6	1	9
Amerada		1	1		2	4	8
Independent	1	3			2	2	8
Transcontinental		1			1	1	3
Barnsdall		2	1	2	2	4	11
Empire		2	1	1		1	5
Magnolia				1			1
Mid-Kans.						1	1
Pure		1		4	7		12
Phillips			1		1		2
Turman		1	3	3		1	8
Atlantic				3	2		5
Harwell EP				1			1
McCulloch				1	1		2
Superior				1	1	1	3
T. B. Slick				4	5		9
Total	3	29	23	34	50	66	205

SEARIGHT—All of 10-o, and sections 2, 3, 4, and 10-9-6

Company	Less than 2000′	2000′-3099′	3100′-3700′	Below 3700′	Total
Carter	3	2	1	1	7
Amerada				1	1
Gypsy				2	2
Mid-Continent				1	1
Searight	2		3	1	6
Wrightsman			1		1
Sinclair			1		1
Pine, W. B.		1			1
Twin State				1	1
Wilcox			1		1
Superior				1	1
Total	5	3	8	7	23

EARLSBORO—All of township 9-5

Company	Less than 2000′	2000′-3099′	3100′-3700′	Below 3700′	Total
Barnsdall	5	2	1		8
Searight		1			1
Magnolia	3		3	1	7
Gypsy	12	5			17
Independent			1		1
Texas Co.	1				1
Amerada	1	3	1	1	6
McGraw et al.	1	1			2
Roxana		1	1		2
Marland	1				1
Mid-Continent	1				1
Phillips Pet.	2	1	1		4
Pure	1				1
Sinclair			1		1
Total	28	14	9	2	53

All of Township 8-6

Company	Less than 2000′	2000′-3099′	3100′-3700′	Below 3700′	Total
I. T. I. O.	1	2	1	1	5
Mid-Kansas		1			1
Gypsy		2		1	3
Empire	1				1
Amerada		1			1
Carter		1			1
Magnolia		1			1
Barnsdall	1				1
Total	3	8	1	2	14

and 3700 feet, and seven drilling below 3700 feet.

Seminole proper, including all of township 9-6 except sections 2, 3, 4, and 10, which are included in Searight, has 205 operations under way, of which 66 are drilling below 3700 feet and 50 are between 3100 and 3700 feet in depth. Most of these two groups of wells probably will be in during the next two or three weeks. At a recent tally, there were three locations and 29 rigs up in the field, 23 wells drilling at depths above 2000 feet and 34 between 2000 and 3099 feet.

Seminole Is Checked

TO sum up, it is probable that the next three weeks will see the completion of 135 wells in the entire Seminole area, of which about 108 will be in Seminole proper. The end of that period may find Earlsboro and Searight producing much more oil than they are at present, but it is not likely that Seminole will be making as much then as now. It is entirely possible, however, that the entire district will show an increase, if the new Earlsboro wells are anything like as large as its discovery well, still making 8100 barrels daily.

As an indication of the type of wells now being drilled in proven territory in Seminole, some of the completions of the past two or three days are cited here. Gypsy Oil Co. No. 5 Wolfe, in the SWc NW of 26-9-6, in the heart of the field, drilled into the Wilcox sand from 4065 to 4086 feet, and swabbed 300 barrels the first six hours. The same company's No. 7 Fixico, in the NEc NW NE of 26-9-6, on a lease offsetting the Independent-Garland discovery well, was drilling at 4167 feet after getting the Wilcox at 4163 feet, and had 1000 feet of oil in the hole.

Mid-Continent Petroleum Corp. No. 6 Tayoche, in the NWc SE SW of 24-9-6, is in the Hunton lime at 4115 feet and had 500 feet of oil in the hole. The same company's No. 6 Rentie, in the NEc SE SE of 14-9-6, in the north portion of the field, made only 30 barrels in the Hunton from 4005 to 4060 feet. I. T. I. O. Co. No. 1 James, in the NWc SE of 24-9-6, which discovered the Seminole field when it drilled into the Hunton lime for 1400 barrels initial in March, 1926, was drilled to the Wilcox. It topped that sand at 4215 feet and at 4285 feet had a hole full of water. It is now plugging back to the Hunton.

I. T. I. O. Co. No. 4 Gooden, in the NWc NE NE of 23-9-6, was in the Wilcox from 4162 to 4175 feet and swabbed 690 barrels in 24 hours. It was then deepened two feet, and swabbed only 320 barrels the next 24 hours. Independent-Garland, No. 8 Fixico, in the NEc SE NE of 26-9-6, on the discovery farm, swabbed only 200 barrels in the Wilcox from 4151 to 4170 feet. It will be given a shot.

Locations are Made in Reno County

TULSA, Jan. 15.—Performance of the Skelly Oil Co.—Hartman & Skaer discovery well in Reno county, Kans., has been thus far satisfactory evidence that a substantial pool was opened. Since it was put on the pump the well has made daily production varying from 290 to 370 barrels. The water content has been decreased.

Stearns & Streeter, producers and drilling contractors, of Wichita, have made a location in the northwest of the northeast of 25-24S-8W. This is on an 80-acre tract purchased by them from John Braden for a reported price of $20,000. The location offsets the southeast corner of the quarter section on which the discovery well was drilled, but not the well itself, which is in the center of the quarter.

Stearns & Streeter will also drill a test in the southeast corner of 1-25S-8W. John Braden is reported to have made location in 27-23S-8W and the Roxana Petroleum Corp. is said to be making location on its block which centers around Secs. 16, 17, 20 and 21, T. 25S, R. 8W.

The Skelly company made rapid progress in taking care of the oil from this well. It came in the morning of Jan. 1 and six days later the company had five miles of 3-inch line laid to Abbyville and a 7-car loading rack in place. First oil was delivered at the El Dorado refinery of the company on Jan. 10.

LOGAN WILDCAT ON PUMP

TULSA, Jan. 15.—Texas-Pacific Coal & Oil Co. No. 1 Moore, Logan county wildcat which has been closely watched during the past two weeks, is to be put on the pump and undoubtedly will make a producer of some sort. The hole, drilled to total depth of 4090 feet in the oil formation topped at 4059 feet, is standing full of oil, but there is very little gas and the well does not flow. It is making about one-fourth of a bailer of water an hour, according to reports. Tubing is now being run in preparation for pumping. The well, many miles from production, is in the SWc NE SE of 28-18-4.

Completions in Oklahoma and Kansas, Week Ending Jan. 15

Carter County

Company	Well No.	Location	Depth	Initial Prod.
Magnolia	6	NWc NE NE 19-1-3W	2808–2845	415
Magnolia	1	SEc NW SE 33-1-3W	2370–2795	152
Magnolia	6	SWc SE SE 3-2-3W	1992–2942	100
Smith	6	NEc SE NE 27-2-3W	2903–3758	20M
Magnolia	2	SEc SW NW 15-2-2W	1060–1075	15
Magnolia	1	SWc SE NW 31-1-3W	T.D.3928	Dry
Humble	2	NWc SW SE 3-2-3W	T.D.3232	Dry

Comanche County

Garvin	2	C NW NW 2-4-11W	T.D.2573	Dry

Creek County

Tibbens	1	SEc NE NW 25-15-8E	2429–2485	5
Lima	3	SWc 30-15-8	T.S.3202	50M
National	1	NEc SW NE 1-19-9	1955–1965	20
Gypsy	20	SWc NW NE 1-18-11	2030–2055	850
Mid-Cont	1	SWc NE SE NW 1-18-11	2010–2016 OWD	200
Mid-Cont	4	NEc SE NW 1-18-11	2002–2010	80
Savoy et al	1	NEc 6-18-12	T.D.2234	40
Curtis et al	1	SWc SE 23-16-10	2644–2652	600
Tibbens	1	SWc SE 32-15-9	3629–3687	5
Rolland	1	NEc SW 6-15-10	3260-T.D.	1½M
Tibbens	2	C SE SW 7-14-9	997–998	3M
Mid-Cont	7	SWc NE 32-14-10	3415–3450	75
Slick	4	NWc SE 32-14-10	3422–3441	265
Prairie	2	SWc 31-15-8	3287–3289	100
Texas	31	CEL NW SW 5-18-7	T.D.3072	Dry
Independent	2	NWc SE SW 5-17-10E	T.D.3054	Dry

Garfield County—Garber

Sinclair	46	NEc 13-22-4W	3570–3638	175
Sinclair	27	NWc NE SE 24-22-3	1581–1591	25
Imo	8	NEc SW NW SW	2220–2249	50
Sinclair	17	NWc SE NW NE 36-22-3W	T.D.2350	Dry

Grady County

Sinclair	1	SEc NW 5-3-5W	T.D.3515	Dry
Meridian	2	C NW SW 24-5-8W	2142–2152	8M
Magnolia	3	NWc SE NE 11-4-8W	2123–2360	15M
Marland	1	SEc NE 17-3-5W	1957–1964	65
Clark-Cowden	2	SEc NW NW 27-3-5W	1828–1848 OWD	840
Clark-Cowden	3	NWc 27-3-5W	1801–1816 OWD	1000
Crichlow et al	2	SEc SW NW 27-3-5W	1843–1872 OWD	423
Garvin	2	NWc NE SE 34-3-5W	1420–1425	25

Grant County

Blackwell	3	NWc NE NE 22-27-3W	4103–4119	.93M

Hughes County

Robinson et al	1	SEc NW 17-8-10E	T.D.4149	Dry

Jefferson County

Armour	1	SWc SE SW 23-6-5W	T.D.1581	Dry

Kay County

Piling-Denny	5	C SW NE NW 9-27-1W	3420–3433	200

Lincoln County

Amerada	1	SEc SW 16-13-5E	T.D.4994	Dry

Muskogee County

Jolly-Ogg	1	CEL NW SE 28-14-16E	T.D.2112	Dry
Bradley	3	SWc NW SW 5-14-19E	T.D.2002	Dry

Nowata County

Prairie	15	CSL SE SE 36-25-16E	486– 512	25

Okfuskee County

Champlin	2	SEc NE SE 15-11-11E	3506–3525	522
Black	1	NWc NE NE 10-13-10	3494	Dry
Burns	2	CEL SE NE 12-12-10	T.D.2875	Dry

Okmulgee County

Harris et al	4	C NE SW 23-14-12	1885–1898	15
Diamond	2	CEL NW NW 27-13-11	2509–2531	325
Moffett	4	CEL NW NE 7-11-12	1929–1952	25
Savoy	1	SEc 19-16-14	1687–1713	200
Holmes et al	1	NEc NW NW 5-15-12	T.D.2673	Dry
Stout et al	2	SEc NE NE 28-13-15	T.D.3099	Dry

Osage County—Burbank

Peters et al	1	SWc NE 20-27-6E	2194–2960	35
Kewanee	3	SEc SW 34-27-6	2760–2826	687
Skelly	2	NWc NE NW 28-26-6E	2897–2933	350
Skelly	4	NWc 28-26-6	2894–2954	250
Skelly	5	SEc NE NW 28-26-6	2903–2953	150
Pawhuska	1	SWc NW 1-27-5E	T.D.3085	Dry

Osage County

Sinclair	1	SEc NW 5-23-7E	T.D.3120	Dry
Tidal	2	NEc NW SW 28-23-9	T.D. 572	Dry
Taulbee	1	SWc NE 14-22-9	T.D.2610	Dry
Okla. Natl	762	NEc 19-21-11	T.D.1910	Dry
Tidal-Osage	21	NEc SW SW 34-22-10	1900–1937	25

Pawnee County

Marland et al	3	NWc SE NW 33-20-5	3292–3378	110
Magnolia	1	NEc SW 28-20-6	3628–3698	2
Gypsy	3	SEc SW 33-20-5E	3348–3350	50

Payne County

Company	Well No.	Location	Depth	Initial Prod.
Home	3	SEc NE NW 6-17-4E	3597–3637	5M

Seminole County

Carter	2	SEc NW SW 34-10-6	4050–4147	2560, 4M
Carter	3	NWc SW 34-10-6	T.D.4388	Dry
Carter	4	NEc NW SW 34-10-6	T.D.4326	Dry
Mid-Cont	3	NEc SW SW 34-10-6	4318–4333	1670

Seminole County—Seminole

Carter	1	NWc NE SE 23-9-6E	4145–4158	2784
Carter	2	SWc SE SW 23-9-6	4065–4151	4350
Tidal	6	SEc SW SE 23-9-6	4175–4191	180
Carter	2	NWc NE 24-9-6	4160–4175	300
Mid-Cont	3	SWc SE SW 24-9-6	4195–4207	270
Magnolia	1	NWc SW SW 25-9-6	4127–3138	2560
Gypsy	4	SWc NE NE 26-9-6	4136–4150	182
Gypsy	5	NEc 26-9-6	4207–4212	345
Gypsy	3	NWc 26-9-6	3984–4000	237
Gypsy	4	NEc NW NW 26-9-6	4110–4119	2900
Indep-Garland	6	SWc SE NE 26-9-6	4100–4130	400
Pure	6	SEc SW 26-9-6	4033–4066	1280
Ind. Terr	1	SWc 13-8-6	4194–4199	5500

Stephens County

Carter	1	SWc NW 32-1-5W	1740–1745	20
Barnsdall et al	1	SEc SE SW 22-2-4W	T.D.1835	Dry
Clark et al	1	NWc SE NE 31-2-4W	T.D.2778	Dry
Magnolia	20	NWc NE 33-1-8W	T.D.2762	Dry
Lamster	1	SWc NW 12-1-5W	T.D.3002	Dry
Mid-Kansas	5	NWc SE SE SE 18-2-7W	T.D.1465	Dry

Tillman County

Dean	1	NEc NW 36-4-15W	T.D.2073	Dry

Tulsa County

Superior et al	5	CWL NE NW 7-19-10	2035–2072	30
McCullough	1	CWL SW SE 34-17-13	T.D.1900	Dry

KANSAS

Butler County

Mid-Kansas	4	NEc SW NW 23-27-7E	2691–2753	125
Flack et al	3	NWc SE NW 23-27-7	2700–2767	440
Magnolia	3	NEc SE NE 4-28-6	3056–3066	225
White Eagle	2	SEc NE SE 4-28-6	3076–3082	30
Neeley	1	C SE SE 33-26-3	T.D.3230	Dry
Superior	1	CWL E½ SE 12-26-4	T.D.2482	Dry

Chase County

Empire	5	C SE NW 32-18-7	1169–1183	1¼M
Neibert et al	1	C NE SW 32-18-7	1160–1175	2½M

Coffey County

McGinnis et al	1	SEc 17-22-17	965– 980	5

Cowley County

Minnehoma	1	SEc 4-31-8	1996–2007	25
Carter	11	CSL SE NW SE 19-32-3	3425–3430	175
Marland	5	CEL SE NW NE 13-32-4	3489–3493	7
Milligan et al	3	NWc SW SE 6-32-5	2327–2346	80
Wilt-Shawver	1	NEc 20-34-3	3567–3476	25

Greenwood County

Superior	2	SWc NW 10-22-11	1812–1821	50
Marland	2	SWc SE NW 7-23-11	2070–2093	5
Manhattan	1	NWc SW NW 31-24-11	1869–1882	30
Bisagno et al	8	NWc SE NE 6-25-13	1636–1654	10
Simmons et al	4	SEc NW NE 9-22-12	T.D.2420	Dry
Phillips	1	SWc SE 29-22-13	T.D.1890	Dry
Christy et al	1	SEc NW NE 31-24-13	T.D.1664	Dry
Beacon	1	SWc NW SW 23-26-9	T.D. 830	Dry
McCullough	1	SEc 30-26-13	T.D.1861	Dry

Harper County

Wakefield et al	1	SEc SW SE 28-31-9W	T.D.4490	Dry

Lyon County

Gasche et al	1	SEc SW 19-20-13	T.D.1902	Dry
Staatz et al	1	SEc 21-21-10	T.D.2664	Dry
Sinclair	1	NWc SW 28-21-10	T.D.2665	Dry
Balliere et al	1	SEc NE 16-21-13	T.D.1925	Dry
Theta	7	SW NW 30-21-10	2265–2305	75

Morris County

Alta Vista	1	C SW 5-14-8	T.D.2505	Dry

Rice County

Youker et al	1	NWc NE NW 11-21-6W	T.D.3444	Dry

Sumner County

Carter	1	NEc SW SE 24-33-2	T.D.3670	Dry

Woodson County

McCullough et al	2	SWc NE 23-26-14	1205–1285	150

Completions in North Louisiana and Arkansas, Week Ending Jan. 13

LOUISIANA

Caddo Parish—Caddo District

Company	Well	Location	Depth	Yield
Gulf Refining Co	Ferry Lake No. 260	28–20–16	2255	120
J. W. Burton, trustee	Caldwell No. 5	18–21–15	1055	15
Tholl Oil Co	Muslow No. 1	31–21–15	1640	15
Unity Pet. Co	Crystal O. & R. Co. No. 5	23–21–16	1048	10

Caddo Parish—Vivian

Ramsey et al	Powell No. 15	36–22–16	1055	15

Little Creek—Grant-LaSalle Parishes

H. L. Hunt	Urania No. 4	2– 9–1E	1510	200
Wingfield et al	Urania No. 3	2– 9–1E	1508	40

Ouachita Parish

Natural Gas & Prod. Co.	Stevens No. 1	31–21–4E	2125	30m.ft.gas
United Carbon Co	Patton No. 1	10–20–4E	2160	45m.ft.gas

ARKANSAS

Nevada County

Company	Well	Location	Depth	Yield
Harralson et al	Ritchie No. 1	34–13–20	1265	dry aband.

Smackover

Vandiver et al	Yarbrough No. 2	22–14–17	1720	dry aband.
W. R. Keever	Neeley No. 3	27–15–16	2030	50
Magnolia Pet. Co	J. Goodwin No. 10	5–16–15	2370	junked aband.

Lisbon

Ackerley & Huddleston	Murphy No. 1	1–17–16	2182	s.w.aband.

Union County—Lapile

Matthews et al	Lewis No. 1	14–19–12	2685	s.w.aband.

Completions in N. C. & E. Texas & Panhandle, Week Ending Jan. 15

Archer County

Company	Well No.	Location Survey	Depth	Initial Prod.
Hunter	3-Parish	H&W	1643–1648	80
Marland	5-Turberville	Carson	1497–1523	10
Johnson	4-Benson	TEL	940– 958	20
Texas	1-Kemp	KWL	T.D.2019	Dry
Texas et al	1-Ford	KWL	T.D.1938	Dry
Gulf	2-Young	Harris	T.D.1504	Dry
Perkins et al	3-Turberville	Carson	T.D.1574	Dry
Muse et al	1-Abercrombie	Harris	T.D.1512	Dry
Consolidated	1-Hardagree	Mead Past.	T.D.1503	Dry
Johnson	5-Benson	TEL	T.D. 998	Dry

Armstrong County

Red Line	1-Puckett	Holmes	T.D.4250	Dry

Brown County

Humble	5-Hickman	Benson	1225–1235	60
McKenna	16-Foster	Benson	1179–1189	35
Humble	6-Foster	Benson	T.D.1195	20
Humble	6-Hickman	Benson	1210–1228	50
Gilman et al	13-Teston	Smith	1224–1241	240
Wilson	4-Stout	ET	1231–1237	30
Amerada	12-Fry	Stubblefield	1301–1317	170
Moore	2-Brinson	Day	1305–1327	8
Sawyer et al	3-White	Vernon	1217–1244	40
Sinclair	2-Shore	Rhune	1211–1224	6
Gibson	3-White	Vernon	1218–1227	20
Roxana	1-Whiteside	Bannister	1313–1319	95
Stivens	1-Smith	Delgado	T.D.1250	Dry
McCarter	1-Smith	Delgado	T.D.1160	Dry
Humble	9-Wooldridge	ET	T.D.1271	Dry
McLester	12-Wooldridge	Gaines	1300	Dry
McLester	18-Wooldridge	ET	T.D.1350	Dry
Shaffner	2-Henson	Logan	T.D.1275	Dry
Thomas et al	1-Sudderth	Dickerson	T.D.2939	Dry
Halloran et al	2-Eddington	Milliken	T.D.1287	Dry
Moore	3-Brinson	Day	T.D.1340	Dry
Magnolia	4-Fry	Chandoin	T.D.1460	Dry
Wentz	3-Shore	Betts	T.D.1353	Dry
Wentz	4-Shore	Betts	T.D.1355	Dry
Carter	2-Andrews	Bannister	T.D.1340	Dry
Denniger et al	1-Fitzgerald	Johnson	T.D. 999	Dry
Cranfill et al	10-Short	Jackson	T.D. 880	Dry

Callahan County

Mortimer et al	1-Beasley	D&SA	471– 478	10

Carson County

Gulf	11-Burnett	I&GN	3090	Dry
Marland	1-Bryan	I&GN	3190–3194	500
Greenwood et al	1-Burnett	I&GN	2308–2367	35M
American	6-Burnett	I&GN	T.D.2900	Dry
Gulf	11-Burnett	I&GN	T.D.3090	Dry

Coleman County

Bowers et al	1-Gay	Bannister	T.D.1433	Dry
Hart et al	1-Teague	Barnicoot	T.D.1446	Dry

Cooke County

McElreath et al	1-Mount	SP	2095	Dry
Green et al	1-McCullum	Cromwell	T.D.2001	Dry
Stahl-Lynch	1-Lube	Jessup	T.D.2262	Dry
Jones et al	1-Grant	Winters	T.D.2104	Dry
Abernathy et al	1-Dayton	Godley	T.D.1962	Dry

Clay County

Jones	1-Mullens	TEL	T.D. 890	Dry

Crane County

Marland	3-Cowden	GCSF	2340–2370	50
Marland	2-Durhan	GCSF	2307–2575	55
Marland et al	1-Cowden	GCSF	2350–2386	140
Marland	4-Hughes	GCSF	2349–2368	107
Diffey et al	1-Cosden	GCSF	T.D.3297	Dry

Eastland County

Gholson	1-Duffer	Mathis	3470–3473	600
Livingston et al	1-Harrell	SP	2114–2115	25
Shasta	1-Allen	H&TC	T.D.3480	Dry

Gray County—Panhandle

Magnolia	1-Heighholt	I&GN	3075–3100	1½M
Upham	1-Burk	H&GN	T.D.2300	Dry

Hutchinson County—Panhandle

Empire	5-Johnson	H&TC	T.D.2767 1198,	20M
Kistler	1-Johnson	A&B	2915–2959	200
Phillips-Gordon	6-Johnson	A&B	2916–2971	35
Phillips-Fenkles	2-Johnson	Whitley	2919–2970	100
Phillips-Patton	8-Johnson	Whitley	2953–2979	200
Skelly	11-Johnson	M&C	3025–3060	60
Gulf	5-Whittenburg	Whitley	2870–2958	25
Phillips-Kingsland	4-Kingsland	D&SE	2760–2804	70
Phillips-Kingsland	6-Kingsland	D&SE	2715–2752	100
Empire	11-Weatherly	M&C	2986–3047	700
Homestead	1-Weatherly	M&C	2995–3095	30
Summitt	3-Whittenburg	M&C	2915–3030	300
Travelers	3-Kingsland	M&C	2995–3030	300

Limestone County

Company	Well No.	Location Survey	Depth	Initial Prod.
Transcontinental	17-Rossen	Varella	2334–2819	2400
Bains Creek	1-Jackson	McKenzie	T.S. 812	15M
Grayburg	2-Riddle	Varella	T.D.3359	Dry

Montague County

Barnsdall	1-Howard	Chambliss	789– 798	40
Continental	12-Boulding	Chambliss	1145–1155	60
Continental	14-Howard	Chambliss	1395–1406	50
Continental	5-Maddox	Thompson	1360–1383	35
Continental	6-Maddox	Thompson	850– 874	60
Gulf	1-Maddox	Thompson	822– 845	5M

Navarro County

Penn et al	1-Holden	Turner	T.D.3503	Dry
Foster-Reiter et al	1-McGee	Ross	T.D.1827	Dry
McNeil et al	1-Pearce	Boren	T.D.3337	Dry
Cosden et al	1-Finch	Hardeman	T.D.3108	Dry

Reagan County

Big Lake	82-Univ.	Univ.	2988–2999	1450
Big Lake	98-Univ.	Univ.	T.P.2925	389
Texon	62-Univ.	Univ.	3025–3064	60
Texon	56-Univ.	Univ.	2985–3009	85
Texon	59-Univ.	Univ.	3040–3065	139
Texon	63-Univ.	Univ.	2904–2948	142

Shackelford County

Carter	1-Haskey	TEL	T.S. 439	5
Carter	2-English	TEL	390– 396	10, 12M
Humble	17-Cook	ET	1361–1373	75
Amerada	3-Cook	ET	1315–1345	419
Hyde-James	4-Moberly	ET	1154–1164	500
Hyde-James	5-Moberly	ET	1170–1180	100
Rosier-Pendleton	7-Cook	ET	1138–1158	320
Rosier-Pendleton	8-Cook	ET	1138–1158	181
Rosier-Pendleton	16-Cook	ET	1145–1157	192
Rosier-Pendleton	18-Cook	ET	1217–1230	610
Rosier-Pendleton	20-Cook	ET	1191–1202	200
Rosier-Pendleton	21-Cook	ET	1308–1328	150
Rosier-Pendleton	2-Cook	ET	1121–1131	260, 7M
Rosier-Pendleton	3-Cook	ET	1150–1164	25
Rosier-Pendleton	5-Cook	ET	1326–1332	40
Rosier-Pendleton	39-Cook	ET	1340–1346	50
Rosier-Pendleton	21-Cook	ET	1315–1345	50
Rosier-Pendleton	12-Cook	ET	1208–1225	50
Tannehill	5-Moberly	ET	1115–1120	¼M
Tannehill	6-Moberly	ET	1115–1119	2M
Campbell	1-Compton	TEL	T.D. 360	Dry
Gulf	1-Mills	TEL	T.D.3588	Dry
Sarver et al	1-Elliott	BAL	T.D.2600	Dry
Conely et al	1-Parrish	OAL	T.D.3000	Dry
Melton	1-Cannon	U Lds	T.D.2342	Dry
Zeifbler et al	1-Alton	H&TC	T.D.2027	Dry
Rosier-Pendleton	1-A	Nail	T.D.2002	Dry
Milham	1-Alexander	TEL	T.D.1252	Dry
Fodley et al	1-Davis	TEL	T.D. 825	Dry
Humble	12-Cook	ET	1390	Dry
Rosier-Pendleton	1-Cook	ET	T.D. 520	Dry
Rosier-Pendleton	19-Cook	ET	T.D.1227	Dry
Rosier-Pendleton	4-Cook	ET	T.D. 896	Dry
Terry et al	1-Flippen	TP	T.D.1414	Dry
Hughes	1-Taylor	BAL	T.D.1508	Dry
Jackson et al	1-Flippen	TP	T.D.2250	Dry
Rosier-Pend	1-Hobson	LAL	T.D.1355	Dry
Southern	2-Dyer	Sec 74	T.D.1501	Dry

Sterling County

Calif	2-Dabis	H&TC	T.D.3127	Dry

Stephens County

Moore et al	1-Parks	TP	2305	Dry

Throckmorton County

Tex-Pac	1-Ellis	Sec 987	T.D.4048	Dry
Red Bank	1-Overcash	TEL	T.D.1500	Dry

Upton County

Amerada	1-Hughes	TEL	2080–2237	20
Dixie	10-Hughes	TEL	2065–2290	75
Marland	2-Shirley	GCSF	2124–2158	105
Dixie	11-Burleson	Nidiver	2025–2050	596
Dixie	1-Johnson	BCSF	T.D.2258	Dry

Wichita County

O'Neal	3-Ferguson	Specht	T.D.5007	Dry

Wilbarger County

Wichtex	1-Woodland	H&TC	T.D.2703	Dry
Douglass et al	1-Ancill	H&TC	1723–1725	75
Fischer et al	1-Hamilton	TEL	886– 891	15

Winkler County

Llano	1-Cowden	SL	T.D.4008	Dry

Wheeler County—Panhandle

Magnolia	1-Johnson	H&GN	2277–2307	1000
Mid-Cont	1-Elmer	H&GN	2120–2126	20M
Globe	1-Laycock	H&GN	T.D.2268	Dry

Young County

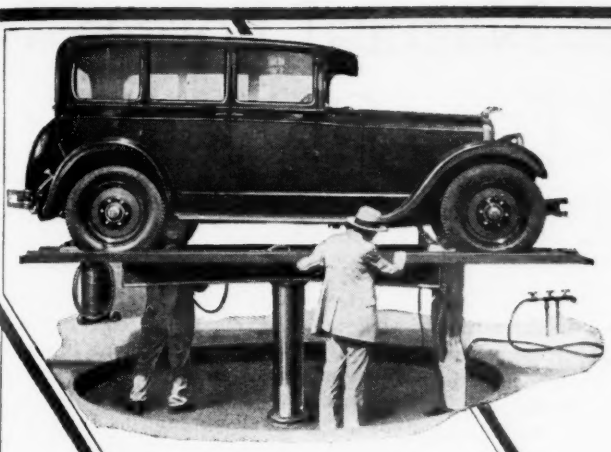
Sun	4-Dunett	TEL	3346–3360	90
Rosier-Pendleton	1-McCluskey	Green	T.D.4230	Dry
Gulf	1-Brown	TEL	T.D.1118	Dry

TOWN LOT DRILLING AT MUENSTER

HOUSTON, Jan. 15.—The little town of Muenster, in western Cooke county, is the latest townlot development area. A 50-barrel pumping well, in the southern part of block 88 of the Muenster townsite, had five feet of oil sand at 1274-1279 feet. The well is the property of the Oil Operators Trust, Inc.

Although the new field will be small, a flurry of excitement in North Texas has followed the Muenster find. Real estate speculation in Muenster is under way in addition to leasing activities.

LOS ANGELES,—William G. Gallagher, of the geological staff of the Union Oil Co., has been named chief geologist for the Union in the Mountain States, succeeding James M. Douglas, who has been made manager of the Union National Petroleum Co. of Venezuela.



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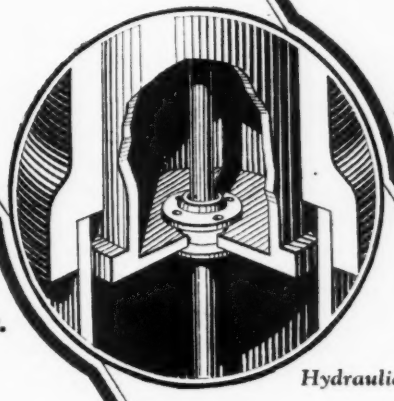

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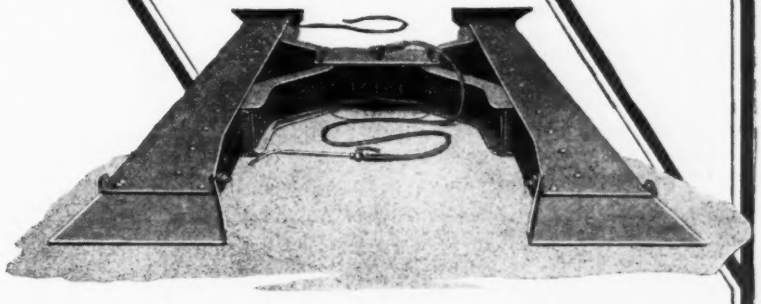

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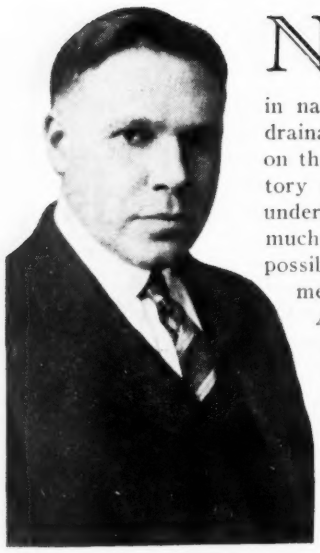
Producer Can Enlist Natural Forces To Help Take Oil From Ground

By Lester C. Uren
Professor of Petroleum Engineering, University of California



LESTER C. UREN

NO contributions to improved production methods during recent years are of greater interest than those which relate to the occurrence of petroleum in nature, and to the physical factors influencing the drainage of oil from the reservoir sands. Important data on these subjects have come lately from both the laboratory and the field: data of fundamental character that underlie the whole science of oil production, explaining much that we did not know or appreciate before, and possibly presaging development of new and more efficient methods of oil recovery.

A review of this new data will be presented in three articles, of which this first one deals with the physical conditions surrounding the accumulations of petroleum in nature. The second will deal with the expulsive forces which drive the oil from the reservoir rock into the well, reviewing what is known of the factors influencing the rate of flow of oil through the reservoir rock. The third article will be concerned with capillarity and adhesion, forces which resist expulsion and are largely responsible for the retention of such oil as remains within the oil sand after drainage ceases.

It has long been a matter of common knowledge that oil occurs in nature stored within the pore spaces of the reservoir rock, and that in a general way, the storage capacity increases as the porosity of the reservoir rock increases. Within the last few years, however, new data has been available, giving a much clearer conception of those properties of reservoir rocks which influence the distribution and availability of the contained oil.

Porosity of Oil Sands

UNDER the U. S. Geological Survey, A. F. Melcher has devised a method for accurately determining the porosity of sandstones[1] and has applied the method in determining the porosities of hundreds of samples of productive oil and gas sands obtained in the drilling of wells in Oklahoma, Texas, Louisiana, Wyoming and Pennsylvania. Table I presents a summary of these porosity tests, which indicate a range in porosity of from 7 to 41%.

Table I. Range of Porosities of Oil and Gas Sands

	%
Pay sands from Pa.	7 to 19
Bradford Oil Sand, Pa	15 to 19
First Wall Creek Sand, Wyo.	17 to 26
Newcastle Oil Sand, Wyo.	12 to 26
Bartlesville Oil Sand, Okla.	12 to 39
Hickman Sand, Burbank, Okla.	13 to 33
Pay sands, Northern Texas	7 to 29
Pay sands, Gulf Coast, Texas	31 to 34
Gas sands, Louisiana	14 to 41
Oil Sand, Santa Fe Springs, Cal.	31

[1]Melcher, A. F., "Determination of Pore Space of Oil and Gas Sands," Trans. Am. Inst. Mining & Metall. Engrs., Vol. LXV (1921), p. 469-489.

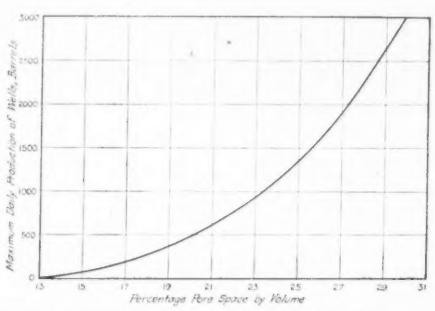


Fig. 1—Graph illustrating relation between porosity and productivity of wells in the Burbank Field, Oklahoma. (After A. F. Melcher)

In a later paper,[2] Melcher correlated the data from porosity tests on samples from various parts of the productive sand in the Burbank field of Oklahoma, with production data from the same areas, indicating a definite relationship between the porosity of the reservoir rock and the maximum daily production of wells. The graph of Figure 1, redrawn from Melcher's data, clearly indicates this relationship. In the Burbank field, wells producing from areas in which the productive sands have a porosity of 30 per cent, develop initial productions of 3,000 barrels per day, or approximately ten times that of wells in other areas in which the porosity is only 18 per cent. An increase of only 12 per cent in porosity of the reservoir sand, is therefore responsible for an increase in initial production of 900 per cent. The data indicate that the porosity of the reservoir sand is an important factor—probably the most important factor—to consider in comparing the productive value of oil sands.

Studies of sand porosity as early as 1898, by C. S. Slichter, also under the U. S. Geological Survey,[3] indicated that the porosity of a sand composed of spherical grains of uniform size is independent of the size of the grains and is dependent exclusively upon the arrangement of grains. Slichter proved by mathematical methods that, for spherical grains of uniform size, the porosity is 47.6 per cent for the least compact arrangement (see Figure 2) and 25.9 per cent for the most compact arrangement of grains (see Figure 3). Intermediate conditions between the most and least compact arrangements of spherical grains, of uniform size, may presumably give porosities ranging between 26 and 48 per cent.

Variety of Forms and Sizes Found

IN Nature, however, sand grains are not spherical in shape, but occur in an infinite variety of forms and in all gradations of size from the finest dust particles to coarse pebbles. Obviously,

[2]Melcher, A. F., "Texture of Oil Sands with Relation to the Production of Oil," Bull. Am. Assoc. of Petroleum Geologists, Vol. 8, p. 716-774. (1924).

[3]Slichter, C. S., "Theoretical Investigation of the Motion of Ground Waters," U. S. Geol. Survey, 19th. Annual Report, part 2. (1897-98)

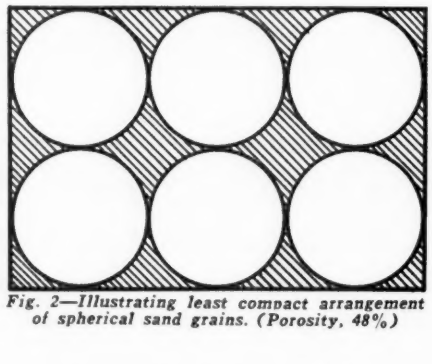


Fig. 2—Illustrating least compact arrangement of spherical sand grains. (Porosity, 48%)

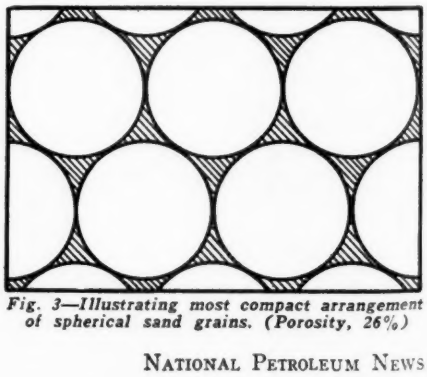


Fig. 3—Illustrating most compact arrangement of spherical sand grains. (Porosity, 26%)

Keeping Pace With Production Practice

NATIONAL PETROLEUM NEWS herewith offers the first article by Lester C. Uren in the exclusive series he is to write for it in 1927 on improved production methods —in short, greater crude recovery at less cost.

This publication appreciates that a new branch of the oil industry has virtually come into being in the past few years; having to do with the taking of oil from the ground under most efficient conditions, both as regards cost and greatest possible recovery from the sands.

Realizing that developments in this new branch or department of the oil producing industry are too many and too varied for the practical man in the business to keep up with in all detail, this publication has arranged with Prof. Uren, acknowledged authority on oil production methods, to keep its readers in touch with these new ideas as they develop to the point they are put into practical use.

A great amount of field experimental work and research work in laboratories is going on continually to advance the knowledge of the industry on production practice. Oil companies themselves are continually bringing out improvements. Government bureaus and associations are working out means to cut down evaporation losses, for example, to reduce losses through corrosion of steel equipment, and so on. Manufacturing and supply companies are always working to develop more efficient equipment for oil companies to use.

Prof. Uren, head of the petroleum engineering department of the University of California, will keep National Petroleum News readers posted on these new developments in improved production methods, in addition to special articles by staff writers and others appearing frequently. His articles will be a practical review on this subject for the man too busy with his own problems in the field or office to do a large amount of general reading to secure this information.

His articles will cover this field in logical order. The first, carried in this issue, takes up the physical conditions affecting the occurrence of oil and gas, as a fundamental groundwork leading to a better understanding of new ideas for greater efficiency in removing the oil.

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when angular fragments of such character are deposited under water in the process of sedimentation, tabular faces of fragments will assume similar orientation and be brought into close juxtaposition, and small grains will be deposited in the interstices between larger grains, thus resulting in materially lower porosities than Slichter's figures for spherical grains would lead us to expect.

Later deposition of secondary cementing material within the sand pores, will still further reduce the free pore space available for the storage of oil. Conditions in nature, therefore, are such that we may generally expect porosities of less than 26 per cent in sandstones not greatly influenced by induced porosity of secondary character. It should be noted however, that any deformation of sediments after they have become thoroughly consolidated will tend to increase the porosity, due to the formation of secondary fractures and cavities. It seems probable that the porosities of many oil-reservoir rocks have been influenced by secondary readjustments of this nature.

Sandy shales are the source of oil in some fields. Clays and shales often have porosities ranging from 50 to 90 per cent when freshly deposited, but, when deeply buried by superimposed sediments, are compressed to smaller volume and the porosities reduced. Hedberg[1] has made studies of the porosities of shales that have been subjected to the pressure of varying depths of over-burden, and reports a relationship between the porosity and depth of superimposed sediments. Some shales are estimated to have suffered a loss of volume of 40 per cent as a result of the pressure developed by 3000-feet of overlying strata. Figure

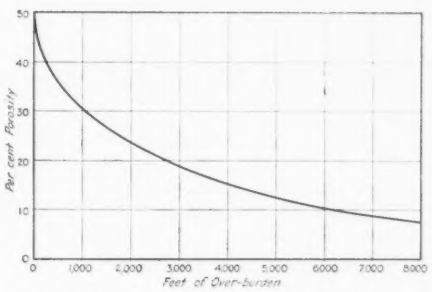

Fig. 4—Graph illustrating relation between depth and porosity of shale strata encountered in a well in Hamilton County Kansas. (After H. D. Hedberg)

4, reproduced from Hedberg's data, shows how the porosity of the shales in a certain locality varies with the depth below the earth's surface.

Sands are found to suffer considerably less loss in volume and porosity by pressure of superimposed sediments than shales. In an alternating series of beds of shale and sand, the oil is therefore forced out of the shales and clays into the overlying or underlying, less compressible sands and sandstones, which thereby become completely saturated with oil and gas under high pressure. Capillary interchange of fluids between the sand and shale layers, is probably also instrumental in transferring the oil from the shales to the coarser grained sands.

Size of Sand Grains and Influence on Size of Sand Pores

IN connection with his porosity investigations, Melcher[1] also made screen analyses of the component sand grains comprising the oil reservoir rocks studied. Table II presents the results of a number of Melcher's screen analyses, to which the writer has added some of his own, representative of typical California oil sands. The screen analyses show that the bulk of the material in oil-producing sands is coarser than 100-mesh (0.147-mm.) and finer than 28-mesh (0.589-mm.) The California sands are shown to be generally coarser than the Mid-Continent sands, a factor which is undoubtedly partially responsible for the higher initial yields of wells in the California fields.

While the percentage porosity is theoretically independent of the size of sand grains, except in so far as variation in size may permit packing of small grains in the pore spaces between larger grains, the size of the sand grains is of interest as a measure of the average size of the pore spaces between grains. If we assume that the grains are spherical in form and uniform in size—an ideal condition never realized in nature, but a useful assumption as a basis for analysis—the pores between grains in the closely packed condition will have a maximum cross-section equivalent to the square of the diameter multiplied by 0.0511, but the perimeter of the pore cross-section would be equivalent to one-half the circumference of an individual grain. (See Figure 5). The writer has computed the data of Table III from these relationships. The cross-sectional area of the pore space is important in determining the rate of flow of fluids through the sand, while the perimeter of the average pore cross-

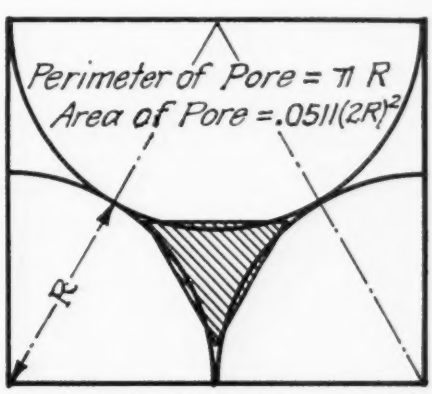

Fig. 5—Showing relative sizes of sand grain and pore cross-sections

[1]Hedberg, H. D., "The Effect of Gravitational Compaction on the Structure of Sedimentary Rocks, Bull. Am. Assoc. of Petroleum Geologists, Vol. 10, p. 1035-1072, November, 1926.

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Table II. Size of Component Grains of Oil Sands From Various Fields, as Shown by Their Resistance to Passage Through Screens of Various Sizes

Size of Grains — Mesh Through	Mesh On	Millimeters Through	Millimeters On	First Wall Creek Sand, Big Muddy Field, Wyoming %	Bartlesville Sand, Oklahoma %	Layton Sand, Oklahoma %	Wayside Sand, Oklahoma %	Glenn Sand Oklahoma %	Hickman Sand, Burbank Field, Oklahoma %
20	35	0.833	0.417	...	...	...	1.8	...	...
35	48	0.417	0.295	0.5	...	10.0	23.2	...	...
48	65	0.295	0.208	12.3	4.7	58.9	47.4	26.3	1.0
65	100	0.208	0.147	51.2	30.8	21.9	15.0	41.0	60.5
100	150	0.147	0.104	26.4	35.1	3.8	5.5	19.2	22.4
150	200	0.104	0.074	4.4	16.7	2.9	3.7	6.0	6.3
200	300	0.074	0.050	2.7	6.1	1.4	2.0	3.3	3.9
300	...	0.050	....	2.5	6.6	1.1	1.4	4.2	5.9

Size of Grains — Mesh Through	Mesh On	Millimeters Through	Millimeters On	Elk Hills, Calif. %	Buena Vista Hills, Midway Field, Calif. %	Wheeler Ridge Field, Calif. %	Kern River Field, Calif. %	Long Beach Field, Calif. %	Inglewood Field, Calif. %
...	10	....	1.661	...	...	...	11.3	...	0.5
10	14	1.661	1.168	3.1	...	1.9	15.5	...	2.0
14	20	1.168	0.833	2.5	0.5	0.4	20.0	1.2	5.1
20	28	0.833	0.589	6.3	1.4	2.1	21.2	4.9	12.3
28	48	0.589	0.295	37.6	47.4	52.0	19.0	25.7	27.5
48	65	0.295	0.208	30.0	22.4	21.0	4.8	23.2	16.9
65	100	0.208	0.147	16.7	15.8	14.7	3.4	17.9	14.3
100	...	0.147	....	3.8	12.5	7.9	4.8	27.1	21.4

Note: Analyses of California sands in this table are by the writer; all others by Mr. A. F. Melcher, see Foot-note No. 1.

section is of interest in determining the magnitude of capillary force.

It is interesting to note in connection with Table III, that a cubic foot of 48-mesh sand, which is perhaps an average size for oil-producing sands, has nearly 1½-million pores in which oil may be stored, and presents 4300 square feet of grain surface to direct contact with the oil. Furthermore, in flowing through sand of this size, the oil must pass through pore spaces only four thousands of a square millimeter in cross-section.

Properties of Crude Petroleum

PETROLEUM chemists have been active, recent years, in advancing our knowledge of the physical and chemical properties of crude petroleum, also. A fund of information of this character is being rapidly assembled, which accentuates the variable characteristics of the product with which we have to deal. Notable among the many contributions on the properties of petroleum, is a series of publications by various petroleum technologists of the U. S. Bureau of Mines.[5] In these reports, the results of distillation, viscosity and density tests are given on several hundred typical crudes from practically all important oil-producing fields of North America.

Among the physical properties of petroleum which influence drainage through the reservoir rock, none are so important as its viscosity. The viscosity of crude petroleum is influenced to an important degree by temperature, and it seems probable that the higher temperatures which prevail at depth within the earth will make of petroleum a markedly different product in this respect than it appears to be at normal atmospheric temperatures.

Van Orstrand,[6] of the U. S. Geological Survey, in a recent study of ground temperatures in wells drilled in various oil fields, finds that earth temperatures are higher near the crests of anticlinal structures than elsewhere in their vicinity, and that at such locations the temperature gradient is in many cases in excess of 1°F. for each 50 feet of depth below the surface. That is, at a depth of 3000-feet below the surface, a temperature of at least 60°F. higher than the normal surface temperature may be expected, and at 4000-feet, the temperature increase would be at least 80°F. If the mean surface temperature were 70°F. an oil occurring at a depth of 3000-feet would therefore be subjected to a temperature of 130°F., and at 4000-feet, 150°F. At such temperatures, the viscosity of crude petroleum is materially reduced in comparison with its viscosity at 70°F.

The writer has assembled the graphs of Figure 6 to show to what extent viscosities of crude petroleum are reduced at temperatures to which they are subjected in the reservoir sand. It will be noted that, at the temperatures prevailing in the reservoir sands, the oil is likely to be reduced to less than half its viscosity at normal atmospheric temperature. Such a condition greatly reduces the frictional resistance offered by the sand to oil movement. As will be shown in a later section of this paper, the viscosity may be still further reduced by the solution of large volumes of natural gas at elevated pressure.

[5]Dean, E. W., Cooke, M. B., Bauer, A. D., Bopp, C. R., Smith, N. A. C., LeJeune, N. F., and Kraemer, A. J., U. S. Bureau of Mines Reports of Investigations Nos. 2235, 2293, 2364, 2416, 2595 and 2608. See also, Technical Paper 346, by A. J. Kraemer and L. P. Calkin. (1925).

[6]Van Orstrand E. C., "Interpreting Earth Temperatures," Oil and Gas Journal, August 26, 1926, p. 72.

Properties of Natural Gas Associated with Petroleum

NATURAL gas, which is almost invariably associated with petroleum in nature, is a mixture of hydrocarbon and other gases and vapors, the properties of which vary widely in different fields. The greater part of the hydrocarbon content is generally methane, but smaller amounts of ethane, propane, butane, pentane and hexane are often present, and in some cases, even heptane, octane and nonane. Table IV presents analyses of gases from a variety of different fields, and is illustrative of the wide variation in composition, which is characteristic.

The maximum pressure at whi h natural gas is stored within the earth, increases with the depth below the earth's surface, and is thought by many authorities to be an expression of the pressure of the superimposed water column. Shaw[7] has assembled the data presented in Table V, demonstrating the approximate relationship which exists between the depth of wells and the initial "rock pressure." The writer has contributed the last column of this table, the figures of which indicate the approximate constancy of the depth-pressure relationship.

Methane, the most abundant of the hydrocarbons present in natural gas, is not condensable at temperatures and pressures possible within the reservoir rocks in which petroleum is stored. It is therefore always present as a gas except in so far as it may be dissolved in

Table III. Size and Number of Pore Openings and Grain Surface Exposed to Oil, in Oil Sands of Different Mesh, in Close-Packed Condition

Mesh	Diameter of Spherical Grain in mm.	Minimum Cross Section of Pore Space Between Grains, sq. mm.	Perimeter of Minimum Cross Section between Grains, mm.	Grain Surface Exposed to Oil Per Cubic Foot of Reservoir Sand, sq. ft.	Millions of Pores per Cubic Foot of Reservoir Sand
10	1.661	0.1409	2.607	764	8.2
14	1.168	0.0697	1.834	1,087	23.6
20	0.833	0.0355	1.307	1,519	65.2
28	0.589	0.0177	1.013	2,166	184.6
35	0.417	0.0088	0.653	3,048	518.3
48	0.295	0.0044	0.462	4,300	1,462.8
65	0.208	0.0022	0.327	6,111	4,174.3
100	0.147	0.0011	0.229	8,639	11,837.0
150	0.104	0.0005	0.163	12,226	33,405.7
200	0.074	0.0003	0.116	16,970	92,739.4
300	0.050	0.0001	0.078	25,245	300,670.1

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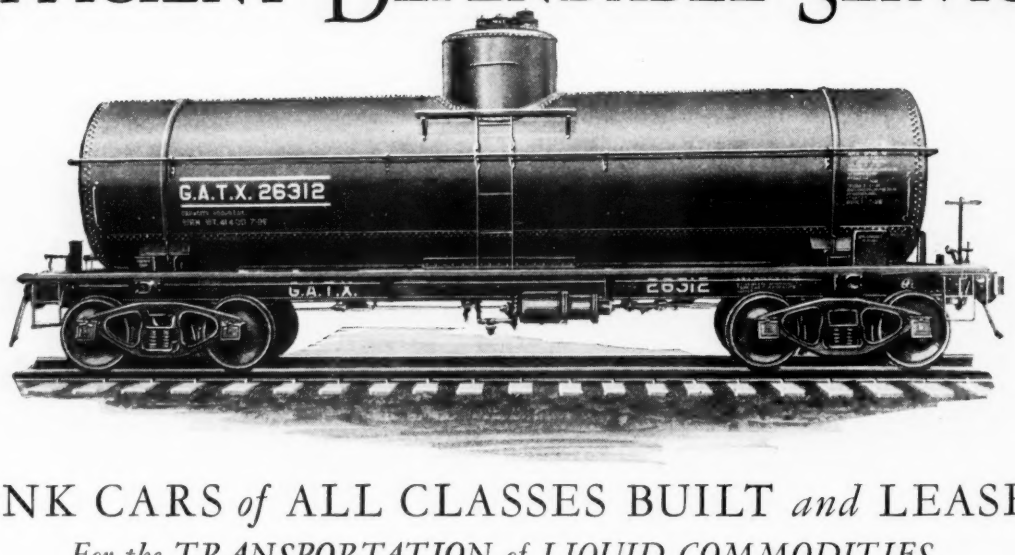

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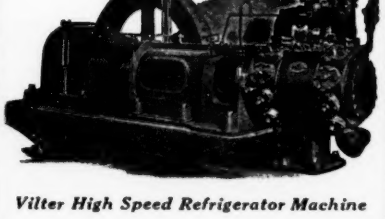

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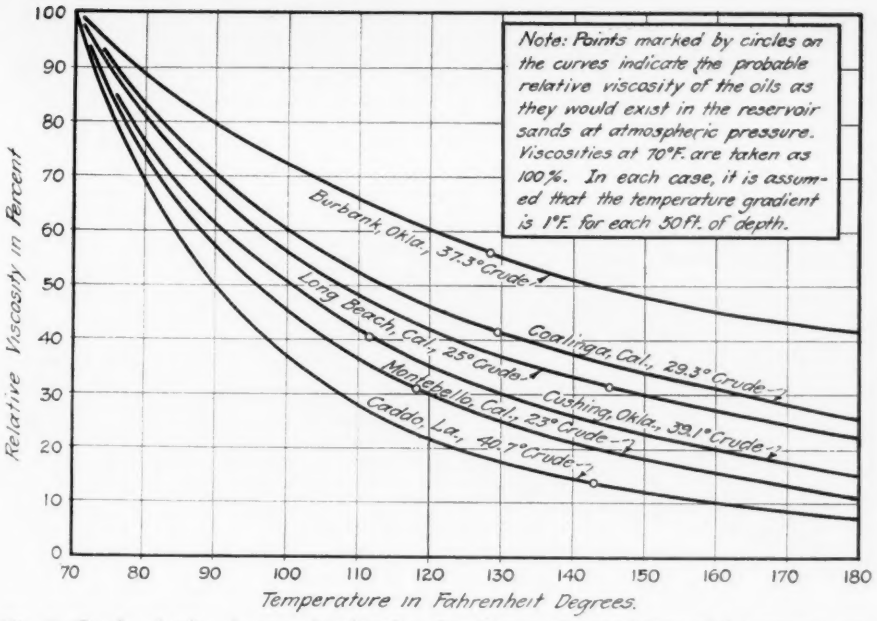


Fig. 6—Graphs showing decrease in viscosity of various crude petroleums with increased temperatures encountered in deep-seated strata

the liquid hydrocarbons at elevated pressures. Ethane, the second member of the hydrocarbon series, does not become a liquid at temperatures in excess of 95° F., and at that temperature, requires a pressure of 666-pounds to liquefy it.

Both these conditions are possible within oil-producing sands, so that ethane may exist in either the liquid or vapor phase. All hydrocarbons of greater molecular weight than ethane have critical temperatures above those reported in most oil reservoir sands, so that their liquefaction is only a matter of securing sufficient pressure, which, as has been shown, is contingent upon depth. Their critical pressures are such as to place them within the range of influence of pressures developed in deep seated oil deposits.

Consideration of the foregoing data will provide an explanation for the variable characteristics of natural gases produced in association with various types of crudes, and for the changes that occur in the properties of gases produced at different stages in the exploitation of the same field. Natural gases produced from high-gravity crudes are likely to contain larger percentages of ethane, propane, butane and other hydrocarbons of higher molecular weight. The gases associated with crudes of low Baume gravity are ordinarily comparatively "dry." Gases produced from an oil reservoir in which the pressure is high, consists chiefly of methane, but become "wetter"—i.e., carry large percentages of condensable fractions—as the pressure declines.

Solubility of Natural Gas in Petroleum

NATURAL gas may be present in association with liquid petroleum, either in the form of bodies of free gas in the reservoir sand above the general oil surface, as small globules of gas shut up within the oil mass or dissolved in the oil. The solubility of natural gas in petroleum increases as the pressure increases, and such gas as is present will always be found in solution in the oil up to the limit of solubility at the prevailing pressure. Gas in excess of that necessary to saturate the oil will be present in the free condition, either held within the oil mass, or in a zone above the oil surface. Dissolved gas is the chief motivating force operative in expelling the oil from the sand, and the petroleum production technologist is therefore particularly interested in knowing the amount of gas that can be retained within the oil in this form.

Dow and Calkin[9], in a recent research conducted for the U. S. Bureau of Mines, determined the solubility of a comparatively "dry" natural gas at various pressures up to 330-pounds per square inch, in crude oils from California, Oklahoma and Wyoming. Beecher and Parkhurst[10] have recently published the results of a series of interesting tests in which gases containing other hydrocarbons in addition to methane were used with various Oklahoma and Pennsylvania crudes, up to pressures as great as 525-pounds per square inch. The results of these two series of tests are displayed in Figure 7. It will be noted that the graphs are straight lines, indicating that the solubility of natural gas is directly proportional to the pressure applied. This is in accordance with a physical law familiar to physicists and chemists as "Henry's Law."

The graphs of Figure 7 show that "dry" gas, composed chiefly of methane, is less soluble than gases containing appreciable percentages of ethane, propane, butane and other hydrocarbons of higher molecular weight. Carbon dioxide, a gas frequently associated with hydrocarbon gases (See Table IV), is even more soluble than the hydrocarbons. It is shown that a given gas may be considerably more soluble in some crude oils than in others, the low-density crudes (i.e., those of high Baume grav-

[7]Shaw, S. F., "Energy Contained in Petroleum Gas," Mining & Metallurgy, I. M. & M. E., January, 1926, p. 9.

[9]Dow, D. B., and Calkin, L.P., "Solubility and Effects of Natural Gas and Air in Crude Oils", U.S. Bureau of Mines Reports of Investigations, No. 2732, February, 1926.

[10]Beecher, C. E., and Parkhurst, I.P., "Effect of Dissolved Gas upon the Viscosity and Surface Tension of Crude Oil," Trans., Am. Inst. Mining & Metal. Engrs., Paper No. 1608-G, December, 1926.

Table IV. Constituents of Natural Gases from Various American Oil Fields[8]

Source of Gas	Specific Gravity, Air=1	% C_nH_4	% Higher Hydrocarbons	% N_2	% CO_2
Santa Maria Field, Cal.	0.81	62.7	20.2	1.4	15.5
Coalinga Field, Cal.	0.66	88.0	0.0	0.9	11.1
McKittrick Field, Cal.	0.85	66.2	1.0	2.4	30.4
Sunset Field, Cal.	0.66	87.7	0.0	1.8	10.5
Kern River Field, Cal.	0.66	84.3	8.0	1.2	6.5
Fullerton Field, Cal.	0.63	86.7	9.5	2.1	1.7
Hogshooter Field, Okla.	0.58	94.3	0.0	4.6	1.1
Bartlesville, Okla.	0.60	92.4	3.1	3.1	1.4
Rogers, Okla.	0.67	75.4	17.7	6.6	0.3
Nowata, Okla.	0.58	95.2	0.0	3.5	1.3
Osage County, Okla.	0.64	88.6	5.6	4.4	1.4
Caddo Field, Louisiana	0.58	96.5	0.0	2.1	1.4
Marietta, Ohio	0.69	73.2	25.6	1.2	0.0
Oil City, Pennsylvania	0.71	67.6	31.3	1.1	0.0
Corsicanna, Texas	0.57	98.0	0.0	1.3	0.7

[8]The data of Table IV are in part from L. C. Uren's "Petroleum Production Engineering," and in part from G. A. Burrell's "Recovery of Gasoline from Natural Gas."

Table V. Actual Recorded Initial Gas Pressures and Ratio of Pressure to Depth For Various Oil Fields of the United States.

Field	Depth of Oil Sand, Feet	Recorded Initial Gas Pressure, lbs. per sq. inch.	Actual Recorded Pressure per Foot of Depth Below Surface lbs. per sq. in.
Caddo, Louisiana	1,650	650	0.39
Mirando, Texas	1,944	635	0.33
Cushing, Oklahoma	2,092	725	0.35
Smackover, Arkansas	2,200	900	0.41
Cotton Valley, Louisiana	2,556	900	0.35
Lost Soldier, Wyoming	2,700	1000	0.37
Burbank, Oklahoma	2,950	800	0.28
Caddo, Louisiana	3,623	1200	0.33
Calgary, Canada	3,740	1200	0.32
Rosecrans, California	4,125	1444	0.35
Dominguez, California	4,200	1470	0.35
Wellington, Colorado	4,285	1400	0.33
		Average	0.35

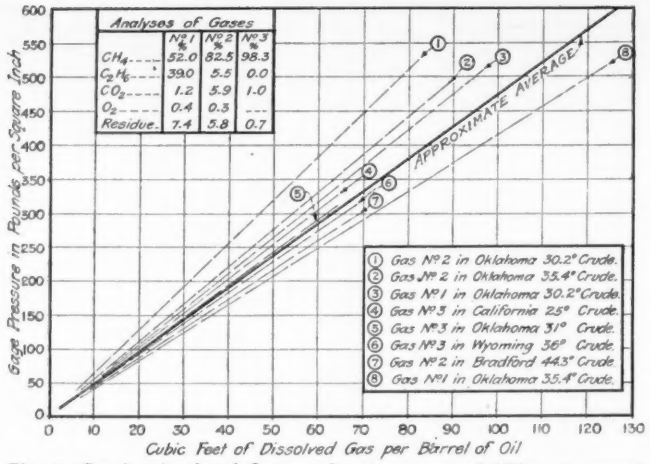

Analyses of Gases
No.1 % | No.2 % | No.3 %
CH4 52.0 | 82.5 | 98.3
C2H6 39.0 | 5.5 | 0.0
CO2 1.2 | 5.9 | 1.0
O2 0.4 | 0.3 | ---
Residue 7.4 | 5.8 | 0.7
APPROXIMATE AVERAGE
① Gas No.2 in Oklahoma 30.2° Crude.
② Gas No.2 in Oklahoma 35.4° Crude.
③ Gas No.1 in Oklahoma 30.2° Crude.
④ Gas No.3 in California 25° Crude.
⑤ Gas No.3 in Oklahoma 31° Crude.
⑥ Gas No.3 in Wyoming 36° Crude.
⑦ Gas No.2 in Bradford 44.3° Crude.
⑧ Gas No.1 in Oklahoma 35.4° Crude.
Gage Pressure in Pounds per Square Inch
Cubic Feet of Dissolved Gas per Barrel of Oil

Fig. 7—Graphs showing influence of pressure on solubility of natural gases in various oils at 70° F. (After Beecher and Parkhurst and Dow and Calkin

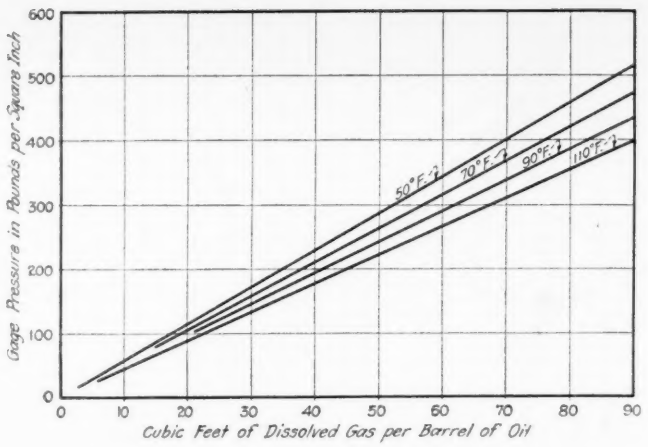


Fig. 8—Graphs showing influence of temperature on solubility of natural gas in crude petroleum. (After Beecher and Parkhurst)

ity) being generally capable of dissolving more gas than the heavier oils. It is interesting to note that at 500-pounds pressure, an average barrel of crude petroleum may contain 105 cubic feet, or 18.75-times its volume of dissolved gas. At 1000-pounds pressure, the same oil would probably be capable of dissolving 37.5 times its volume of gas.

The solubility of gas in oil also varies with the temperature, the solubility decreasing as the temperature rises. Additional experiments performed by Dow and Calkin[9] indicate that for the gas and oils used, the solubility at 130° F. is 16 per cent less than at 70° F. Beecher and Parkhurst[10] have contributed the graphs of Figure 8. As prevailing ground temperatures at depths from which oil and gas are produced are frequently in excess of the temperatures at which these tests were made, it is clear that consideration must be given to the temperature factor in studying subterranean solubility effects.

Influence of Dissolved Gas on Oil Viscosity, Surface Tension and Density

GAS in solution in petroleum has a remarkable influence on the oil viscosity and surface tension. These are properties that largely determine the extent of retention of the oil in the sand by capillarity and adhesion, and the resistance to flow through the sand pores. Viscosity tests on crude petroleums containing varying amounts of dissolved gas (i.e., at varying pressures), also performed by Dow and Calkin[9] and by Beecher and Parkhurst[10], indicate that the viscosity of oil decreases as the amount of dissolved gas (i.e., the pressure) increases.

Figure 9 shows to what extent the viscosity varies with pressure change. It will be noted that, in one case, the relative viscosity of oil saturated with gas at 600-pounds pressure, is only 42 per cent of the viscosity of the same oil at atmospheric pressure. Beecher and Parkhurst point out that certain crudes have viscosities as low as that of kerosene when saturated with dissolved gas at pressures equivalent to those prevailing at 4000-feet or more below the earth's surface. Temperature alters the oil viscosity materially, as has been shown, but the viscosity apparently suffers the same percentage decrease at elevated pressure, irrespective of the prevailing temperature.

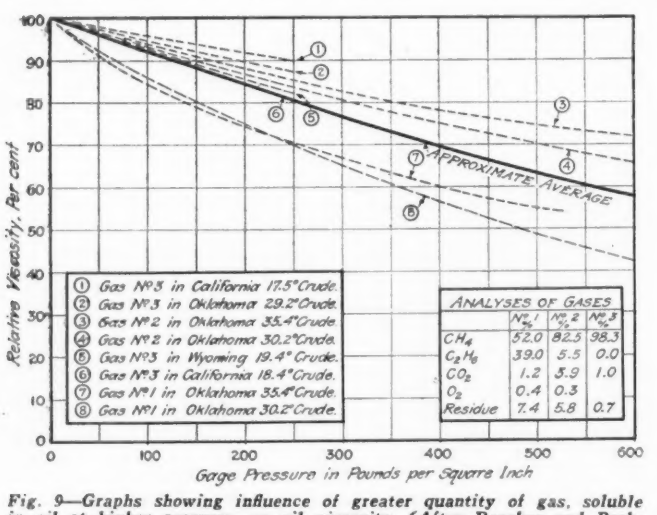
It seems probable that in the case of very "wet" gases containing high percentages of condensable vapors, the viscosity change may not be entirely due to mere solution of the gas in the oil, but rather, to actual change in the constitution of the oil through the addition of condensed hydrocarbons of low viscosity. Dow and Calkin report that an oil having a viscosity of 577-seconds Saybolt at 100° F., was reduced to a viscosity of only 54-seconds at the same temperature by the addition of only 1 per cent of motor gasoline.

Tests by Beecher and Parkhurst[10] indicate that the surface tension of oil is also diminished by the presence of gas in solution. In one series of tests, the surface tension was reduced 19 per cent by increasing the pressure of gas saturation from atmospheric to 4000-pounds per square inch. (See Figure 10.)

Tells of Friendly Forces

In the development of this new phase of the oil business—improved production practice—more is coming to be known all the time of the natural forces underground that either help or hinder the producer in his effort to take the oil from the sand in the most efficient manner.

In his next article, in the Jan. 26 issue of National Petroleum News, Prof. Uren goes in some detail into a discussion of those forces that are friendly to the producer—that help expel the oil from its reservoir.


① Gas No.3 in California 17.5° Crude.
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③ Gas No.2 in Oklahoma 35.4° Crude.
④ Gas No.2 in Oklahoma 30.2° Crude.
⑤ Gas No.3 in Wyoming 19.4° Crude.
⑥ Gas No.3 in California 18.4° Crude.
⑦ Gas No.1 in Oklahoma 35.4° Crude.
⑧ Gas No.1 in Oklahoma 30.2° Crude.
APPROXIMATE AVERAGE
ANALYSES OF GASES
No.1 % | No.2 % | No.3 %
CH4 52.0 | 82.5 | 98.3
C2H6 39.0 | 5.5 | 0.0
CO2 1.2 | 5.9 | 1.0
O2 0.4 | 0.3 |
Residue 7.4 | 5.8 | 0.7
Relative Viscosity, Per cent
Gage Pressure in Pounds per Square Inch

Fig. 9—Graphs showing influence of greater quantity of gas, soluble in oil at higher pressure, on oil viscosity. (After Beecher and Parkhurst and Dow and Calkin)

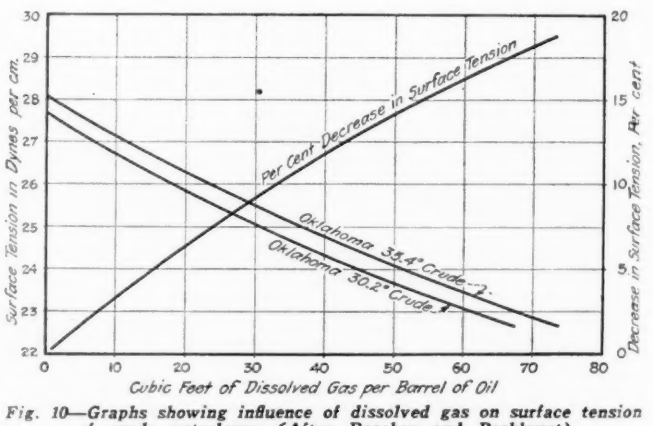
per cent Decrease in Surface Tension
Oklahoma 35.4° Crude
Oklahoma 30.2° Crude
Surface Tension in Dynes per cm.
Decrease in Surface Tension, Per cent
Cubic Feet of Dissolved Gas per Barrel of Oil

Fig. 10—Graphs showing influence of dissolved gas on surface tension of crude petroleum. (After Beecher and Parkhurst)

While of little practical significance in oil recovery, it is interesting to note that gas dissolved in petroleum also decreases the density of the oil slightly. Dow and Calkin[9] report that a 35° B. crude oil, saturated with gas which contained 98.3 per cent methane, at 200-pounds pressure, increased in volume 1.25 per cent, while the Baume gravity of the oil increased to 36.4°. The increases in volume and Baume gravity apparently follow a straight-line relationship: that is, increasing the pressure to 400-pounds would increase the volume by 2.5 per cent and the Baume gravity to 37.8.

Conclusions

THE data presented in this article have been assembled with the purpose of more clearly establishing the conditions surrounding the occurrence of petroleum in Nature, and more particularly, the conditions prevailing in the oil reservoir rock before it is tapped by the drill. It has been shown that the oil is stored within the intercommunicating pore spaces of porous rocks, and that, under the elevated pressure prevailing at depths within the earth, the oil is capable of retaining large quantities of the associated natural gases in solution. The pressure, and therefore, the amount of gas the oil may hold in solution, increases directly with the depth below the earth's surface. The presence of this dissolved gas and the elevated temperature characteristic of deep-seated rocks, both contribute to a material decrease in oil viscosity. The surface tension of the crude also decreases as the pressure and the amount of dissolved gas increase.

California Eastern Oil Increases Capital

LOS ANGELES, Jan. 17.—At a special meeting of the board of directors of the California Eastern Oil Co., the new organization that takes over the Marine Oil Corp. and the Julian Petroleum Corp., an increase of 5,000,000 shares of capital stock was authorized, and the board approved a bond issue of $7,500,000. This action doubled the authorized number of shares of no par value. The bonds will be a first mortgage on all the company's property, will bear 6½ per cent and will be convertible into capital stock.

Five more directors are to be elected. Present directors include: S. C. Lewis, president; E. E. Durbrow, general counsel, Southern Pacific Co.; L. J. King, vice-president, Associated Oil Co.; T. P. Conroy, assistant general manager, Julian Petroleum Corp.; E. J. Miley, president, Miley Oil Co. and State Consolidated Oil Co., and John E. Barber, vice-president, First National Bank of Los Angeles.

WASHINGTON, PA.—Sinclair Refining Co.'s agency here has recently put into service a new Diamond T speed wagon.

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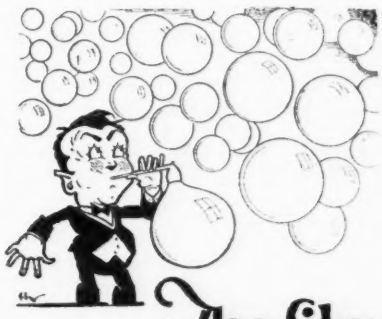

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G. G. Brockway Quits Refining Co. To Market Clay-Burning Furnace

CLEVELAND, Jan. 15

GLEN BROCKWAY, general manager of the Warr-Penn Refining Co. at Warren, Pa., since he organized the company seven years ago, has resigned that position to devote his attention to the G. G. Brockway Co., with headquarters at 26 Clark st., Warren, to distribute, engineer and service the Herreshoff furnace for decarbonizing fuller's earth. S. D. Tibbits succeeds to the position of general manager of the Warr-Penn.

Mr. Brockway is well known in the oil business, particularly in the east. His father is George P. Brockway, president of the Seneca Oil Works at Warren. The younger Mr. Brockway retains his interest in the Warr-Penn company and continues as a director. The other officers of the Warr-Penn are: George P. Brockway, president; E. W. Campbell, vice president and A. H. Wickstrom, secretary.

The company has specialized in the manufacture of bright stock under the trade names of W. P. R. and W. and is a member of the Pennsylvania Grade Crude Oil Association.

G. GLEN BROCKWAY

The Herreshoff Furnace

THE Herreshoff furnace is manufactured by the Nichols Copper Co. of New York. While the furnace, which is round, can be built in different sizes to accommodate the needs of the refinery where it is to be installed, the most usual size is 27 feet high and 16 feet in diameter. The walls are of three-eighths-inch steel plate, insulated with nine inches of firebrick of standard shapes.

In the center of the furnace runs a vertical hollow cast iron shaft 12 inches in diameter surrounded by an annular space 24 inches in diameter.

There are seven roasting hearths and one air-cooled hearth in the standard furnace, but more hearths may be added in series of two. The hearths are set at a slight angle and are floored with a special fire tile. Each hearth has an opening onto the hearth below and these openings are staggered, being in one hearth next to the shaft and in the hearth below next to the outer wall of the furnace.

Revolving Center Shaft

THE central shaft is revolved by means of a gear and pinion driven by a small electric motor through speed reducers, from one half to one revolution per minute. The shaft runs on a button bearing, immersed in oil at the bottom and the top runs in a guide bearing in the roof of the furnace. To the shaft are attached rabble arms by means of special pins. The length of the rabble arms is approximately equal to the radius of the roasting hearths.

The spent earth feeds into the furnace from a hopper by gravity. From the spout of the hopper the earth falls onto a shelf above the topmost roasting hearth, until it reaches the angle of repose, continually sealing the spout of the hopper. An adjustable scraper block, mounted on a stud on the upper side of the topmost rabble arm, scrapes off a quantity of fuller's earth at each revolution, dropping it down onto the first roasting hearth.

Each rabble arm is fitted with fingers somewhat like a rake, set at an angle and as the shaft revolves the rabble arms turn the thin layer of clay spread out on each hearth, over and over, alternately raking it toward the center and toward the outer wall of the furnace on alternate hearths. As the clay reaches the outlet from one hearth, at the center or at the wall, the clay drops down to the next hearth where it is rabbled in the opposite direction to the outlet from that hearth.

Rabble Arms Air Cooled

COLD air is introduced into the bottom of the shaft by means of motor driven blowers and traveling up the shaft, enters a tube with an open end in each hollow rabble arm. The air travels the length of the tube to the end of the rabble arm from which point it returns through the outer shell of the arm to the annular space around the shaft, thereby keeping the arms from becoming too hot. This preheated air is then forced downward and discharged through specially patented hot air ports below the fifth and seventh

hearths where it blows continuously as an oxidizing agent on the curtain of earth falling from the hearth above at the proper oxidizing temperature.

The eighth tray from the top of the furnace is a hollow metal tray for cooling. The space inside this tray is constantly supplied with a large quantity of cold air by means of another blower. The earth, falling from the lowest roasting hearth and meeting the blast of hot air as described, falls onto the cooling tray. The earth, being rabbled across this metal tray in a thin layer, is cooled not only by the air beneath the tray but by a number of sprays of cold air that are blown upon it through perforations in the underside of the rabble arm.

FROM the cooling tray the clay is rabbled off, cool enough to handle, through a trap into a bin or elevator or any kind of continuous conveyor that may be used. The firing of the furnace is done by oil or gas burners, several of which are fitted in the side walls of the furnace in various compartments according to operating requirements of the particular plant.

One of these furnaces has been in operation for some time at the refinery of the Warner-Quinlan Co., Warners, N. J. Five have been ordered by western Pennsylvania and West Virginia refiners.

In addition to his activities as a refiner, Mr. Brockway has been known for the past 14 years as manager of the G. G. Brockway Co., manufacturer and sales agent for the Brockway fuller's earth dryer.

Mr. Brockway is now building up an engineering and laboratory force to introduce, represent, engineer and service the Herreshoff furnace.

WESTERN REFINERS MEET MARCH 3

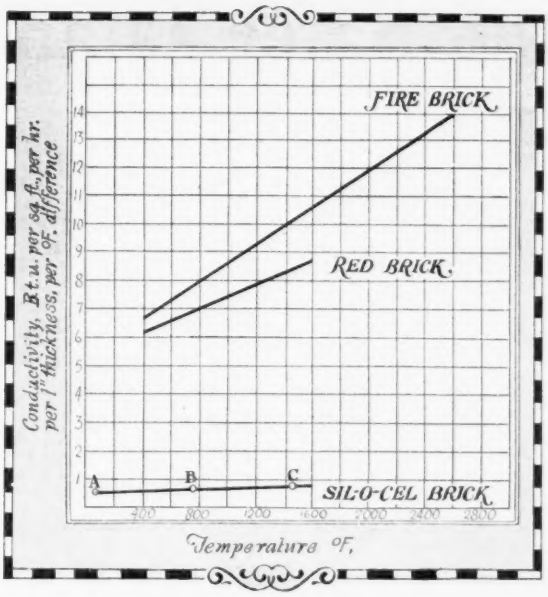
TULSA, Jan. 18.—The Western Petroleum Refiners Association will hold its annual convention at Kansas City March 3, it has been announced by Howard Bennette, managing director. Headquarters will be at the Muehlebach Hotel. Only one day will be taken up by convention session, and the program will be devoted to topics of particular interest to refinery executives rather than technical discussions. Department heads will hold group meetings at intervals during the year instead of in connection with the annual convention.

L. L. CORYELL, JR., MARRIES

LINCOLN, NEB., Jan. 3.—L. Leland Coryell, Jr., of the oil jobbing firm of L. L. Coryell & Son here, married Miss Lorraine Boucher, daughter of Mr. and Mrs. Boucher, Sioux City, Neb., on Dec. 30.

The marriage cermony was held at the Alpha Chi Omega Sorority House, Lincoln. Earl Coryell, cousin of the groom, was best man.

After the wedding, Mr. and Mrs. Coryell left for a cruise to the West Indies.



The insulating value of Sil-O-Cel Standard Brick as determined by the Celite Products Company laboratories checks very closely with the findings of the United States Bureau of Standards, point A, and of the National Physical Laboratory of England, points B and C on the curve above.

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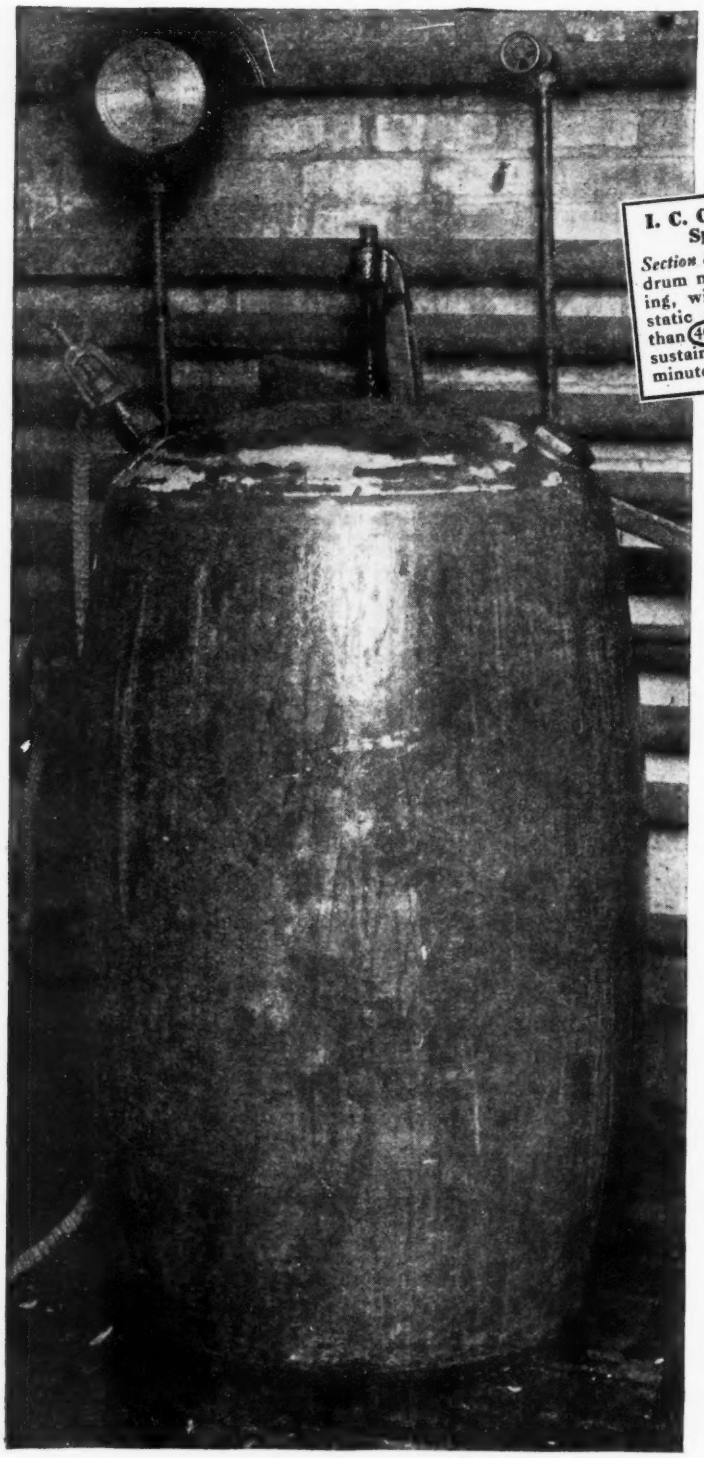
I. C. C. Shipping Container Specification No. 5
Section 8: This type of barrel or drum must be capable of standing, without leaking, a hydrostatic test pressure of not less than 40 pounds per square inch sustained for not less than five minutes.
480 pounds

THIS Hackney Seamless Steel Barrel is undergoing a hydrostatic test pressure of *480 pounds per square inch.*

Notice how this extreme pressure has pushed up the head. But there was *absolutely no sign of leakage.*

Now look at I. C. C. Shipping Container Specification No. 5. It requires only 40 pounds per square inch. But this Hackney Barrel was given 480 pounds—*1200% more than required.*

Because of such performance—not only in tests, but in actual use — Hackney Seamless Steel Barrels are everywhere gaining the reputation of being the safest, surest, and cheapest means of liquid transportation.

Hackney Barrels can make more round trips without leakage, without spoilage, and without damage. Patented head chime construction and seamless bodies make them extra strong and leakproof—make them 1200% safer than I. C. C. Specifications require as this test proves. Patented Raised Openings give further protection against both leakage in and leakage out.

If you are looking for safer, stronger, hardier barrels — barrels that can lower your shipping costs—mail us your name and address. We will send you complete information and quotations without obligating you in any way.

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Underwriters' Labs. Work on Flame Arresters

CLEVELAND, Jan. 17.—Activities of Underwriters' Laboratories, Chicago, in 1926 in which the oil industry is more or less affected, included tests of flame arresters for storage tanks, gasoline pumps, dry cleaning fluids and oil burners.

Investigations were continued from 1925 on a line of flame arresters in sizes from 2-inch to 10-inch, submitted by one manufacturer, the laboratories report in their annual review. Work is progressing on a line submitted by another manufacturer, and on a screen type arrester for vent lines submitted as the year ended.

"This work on arresters is of particular interest," says the review, "not only with respect to fire protection, but also on account of its bearing upon the conservation of our oil resources."

Work on pumps was almost exclusively on the visible type, particularly the bowls. The quality of glass used is described as being "far superior to that employed in years past." Bowls are still restricted to 10 gallons' capacity.

The number of samples of cleaning liquids submitted was much larger in 1926 than in previous years, the laboratories report. The liquids complied with the specifications of Stoddard solvent, adopted by the organized dry cleaners. A large refiner submitted samples of four gasolines for testing as to flame propagating properties of mixtures of their vapors with air.

Thirty-three oil burners were listed as standard in 1926, compared with 16 in 1925, which was the previous record year. At the end of 1926, 63 devices had been listed. Eighteen furnaces were in constant use testing burners most of the year.

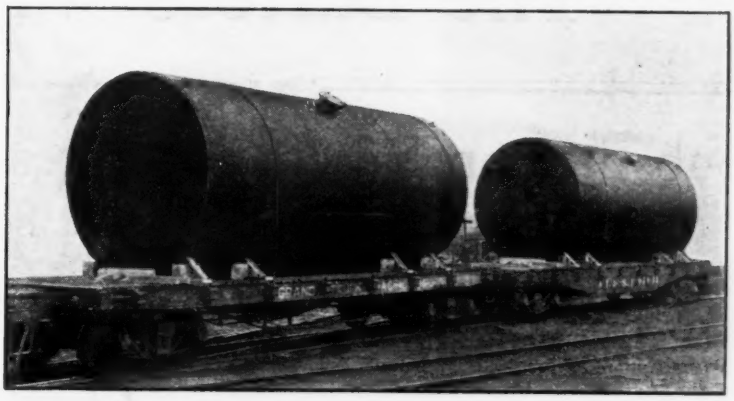
Roxana Brings Out New Anti-Knock Fuel

ST. LOUIS, Jan. 15.—The Roxana Petroleum Corp. is announcing in full page newspaper advertising space, the launching of a new anti-knock gasoline under the name Super-Shell which it is putting out in competition with the Standard of Indiana's Ethyl gasoline. The new gasoline sells at 3 cents above the tank wagon, which is the same premium at which Ethyl gasoline is sold.

Ten advantages over ordinary gasoline are claimed in the advertising for Super-Shell gasoline, as follows: Stops motor knocks; starts instantly; accelerates quickly; gives increased power; burns cleanly; less crankcase dilution; contains no chemicals; safe to use; will not injure the motor; improves the performance of any car.

SIOUX CITY, IA.—Interstate Oil Co. has built an addition to its old building here, consisting of a fire-proof office and garage at a cost of $20,000.

STANDARD TANKS



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The W. F. Robertson Steel & Iron Co.
The Elwood Myers Co., Division
Springfield, Ohio

Description of PENNZOIL Sign

12" x 36". 30 gauge embossed red and black on yellow ground. Ask for one for inspection.

May we quote on your requirements?

The Editors' Viewpoint

National Petroleum News

Substitution Falsehoods Spread to Pacific Coast

By Warren C. Platt, Editor

THE falsehoods of the American Fair Trade League of New York against the oil industry continue to live. Their last appearance is on the Pacific Coast where they are receiving much publicity in Touring Topics, the publication of the Automobile Club of Southern California.

The original statements of the American Fair Trade (?) League have been polished up a bit by the author of the article so they probably will make a more drastic impression against the oil industry, than as originally issued by the league.

Attempt is made to tone them down by statements from C. L. Whitehead, a lawyer who operates the Consumers Protective Bureau and who has been active in the fight against oil substitution in southern California. Mr. Whitehead repeats a number of times that not all oil by any means is substituted and that the number of substitutors is very small. But his caution is considerably offset by the following quotation credited to him:

"'When the motor owner realizes that fully 80 per cent of all repair bills to his automobile are due to lubrication defections, then will he recognize the absolute necessity for demanding and obtaining the right oil for his particular car,' explained Director Whitehead."

If 80 per cent of all the repair bills that a motor car owner pays is due to poor lubrication then the substitution evil cannot be so very small, as Mr. Whitehead elsewhere states. He also repeats the false statement of the American Fair Trade League that faulty lubrication is costing the motor-car owners of this country more than a billion dollars a year.

The author lays it on a bit thicker by the following sentences with which he opens his story:

"Bootleg booze and bootleg oil have two common characteristics. Both are illegally dispensed and both exert a most deleterious affect upon the mechanisms that consume them. The distinction, if one may be drawn, is the fact that bootleg oil accomplishes its destructive objective with far greater rapidity.

"The loss directly attributable to improper lubrication is manifest through over-heated motors, burned-out bearings and other motor ailments and results in an astounding reduction in the increment of service which the public has the right to expect from its motor cars."

Later the author says:

"The repair bill, coming entirely too often, is the motor owner's signal of distress, his index of deception. Mal-lubrication works with subtlety and it is not, customarily, until its disastrous purpose has been accomplished that the public is aware of the dire import of substitution. Wheezes, knocks and premature relegation to the bone-yard with other mechanical skeletons, commonly called 'heaps' are the inevitable aftermath of faulty lubrication usually achieved through the negligence of the motor car owners themselves."

What car owner of the average type reading that would not at once blame every ailment of his car, regardless of its reason and regardless of how old the car was, to faulty lubrication for which he would hold the oil companies responsible? Undoubtedly, if this publication has any standing among the car owners of southern California, the oil companies operating there are going to come in for a lot of blame this winter and next spring to which they are not in the least entitled. If the motor car owners believe this story, then undoubtedly most, if not all, of the results of wear, tear and use of a car will be blamed on the oil.

Mr. Whitehead, who has been engaged in this work for several years, reports there have been 32 prosecutions with 29 convictions and that one oil company, (name not given), operating 56 stations in southern California was indicted, found guilty and fined $1,500 for substituting lubricating oil. Mr. Whitehead says these prosecutions, along with some laws that are peculiar to California, have reduced substitution to a minimum.

What Mr. Whitehead doesn't say is that southern California is over-run with thousands of small independently owned service stations, owned and operated by people of all kinds and description, mostly those who have come to California with a few hundred dollars seeking a soft and easy living. Oil companies, particularly with national brands, have pressed on these service station men their oils, so that some service stations display the signs of six and seven nationally advertised motor oils. Some of the distributors of these oils have admitted that their gallonage is so thin that their salesmen cannot call on their trade once in three months. What, therefore, is one to expect, especially as quite a large number of these stations, to say the least, are reported to be losing money? Bear also in mind that the bulk of these stations supply a touring and flitting population, a certain rather interesting percentage of which, according to legitimate oil companies, is not above "putting one over" on the service station owner whenever possible.

Outside of New York City, where so much of the service station business is done with chauffeurs, who for years have been collecting a percentage of all purchases for their employers, there probably isn't another district in the country where conditions are more conducive to fraudulent practice among independently owned service stations and garages than in southern California.

Mr. Whitehead says the conditions are relatively good in southern California. If they are good there, they must be most excellent, practically 100 per cent, everywhere else in the country.

Whoever is back of this continuing, unfair and untruthful publicity about motor oil is doing the oil industry more harm than the industry's Committee on Public Relations can undo in years to come.

Following are two letters commending the criticisms of this paper of a recent article in the Saturday Evening Post about alleged motor oil substitution. The first letter is from J. Edgar Pew, vice-president of the Sun Oil Co. at Dallas, Texas, and former president of the American Petroleum Institute and chairman of its great standardization work today. Mr. Pew says:

"I wish to congratulate you on the splendid editorial you have on the criticisms of the oil industry contained in the Saturday Evening Post's recent effusion, particularly as applied to the filling stations.

"It would be as just to condemn any class of people because of some delinquency among their number as it is for this article to attempt to condemn all the filling stations on account of the shortcomings of a few of them.

"It has always struck me that the newspapers as a whole perpetrate more fraud upon the public than any other estate. You may go upon the street any day and at any time prior to 4

IT SURELY IS A DANGEROUS WAY TO KINDLE A FIRE

o'clock in the afternoon and get nothing but a very few columns of new matter that you have not had the day before in the same paper. Some times even the dates are not changed. Yet the newspapers seem to consider themselves the arbiters of the business morals of the country.

"I take it you are not sufficiently a newspaper man now to consider this a criticism of yourself."

The next letter is from R. W. McDowell, vice-president of the Black Hawk Oil Co., Waterloo, Iowa, a company that has had much experience in the Middle West. Mr. McDowell says:

"Like most other busy people, I try always to find time to read your publication, and have in times past, as you know, taken issue with you on several matters. However, I believe in giving the 'Devil his dues' and I certainly want to commend you upon the article in your issue of Nov. 24, headed 'The Post Is Unfair to the Oil Industry.' Not only is your point well taken as regards the seeming lack of knowledge on the part of the editorial management of this publication, but it seems to me that these sort of things would some day cause the leaders of our industry to wake up to the glaring need we have for a medium of defense against attacks of this sort, which I believe can best be done through educating the general public first of the real ins and outs of this business.

"I believe your ideas and convictions upon this subject are clear cut and fundamental, and I believe you stand in a position to pound on this subject sufficiently to get the proper parties sincerely interested. It certainly seems to me that the time is ripe for a little militant action on the part of the oil industry, for we certainly have allowed ourselves to be kicked about and abused by everyone from high public officials in Washington, down to local newspapers. In fact, every one in this country seems to be more interested in the price of, and the method of dispensing gasoline than any other subject.

"Again let me commend you for your past stand on these matters and I trust that you will not grow weary of your task before you are able to get some whole-hearted cooperation."—

Mexican Oil Lands Not Involved

THE Mexican oil land situation has not changed one whit because of the flaring up of war headlines in the newspapers and the shouting of congressmen in the Capitol at Washington.

True, more people in this country of late have learned there was an oil land dispute through the efforts of that type of newspapers that have been reprinting World War pictures and harking back to 1917. The same newspapers consistently ascribe any differences between this nation and the southern republics to the efforts of American oil capital, largely oil interests, to take property there that does not rightfully belong to them.

The man engaged in the oil business in this country could well keep in mind the basis of the oil land dispute, in the present heated newspaper discussion of our foreign policies toward Mexico and Nicaragua. The principles involved have not changed in the last eight years or so since the Mexican government announced in 1917 that all oil lands, regardless of how title was previously secured, were to be taken back by the state.

The American oil companies have nothing to say with this policy as it applied to the handling of the oil lands from the time this policy was set forth in the Constitution of 1917, even though it was directly contrary to what was set forth in an earlier constitution. The announced policy of the Mexican government to make this principle apply to lands secured under private title rights granted in the Constitution of 1859, has been contested by the American oil companies, however.

This feature of retroactivity does not conform to international law. The American oil companies having invested many millions to develop oil on these lands acquired before 1917, in justice to their stockholders, intend to protect their titles as far as they can by peaceful efforts. Development of Mexican oil lands by American oil companies has benefited Mexico more than Mexican oil has benefited this country.
—V. B. G.

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Fall's Illness May Delay Teapot Dome Trial

WASHINGTON, Jan. 17.—There is doubt that the Fall-Sinclair conspiracy trial will be begun Feb. 2 as planned. In fact, there is a feeling that it will be physically impossible for Fall to be in Washington on that day, even if he recovers from the attack of pneumonia, from which he suffered a relapse on Jan. 7 to such an extent that stimulants had to be used to increase his blood pressure.

Fall was a broken old man when he stood trial with E. L. Doheny. While he is only 65 his has been a hard life aside from the trouble he brought upon himself in connection with the naval oil leases and the Pearl Harbor oil storage contracts.

Coincident with news of Fall's relapse came gossip stories to Washington that J. E. O'Neil and H. M. Blackmer, two witnesses the government had been unable to bring into court at Cheyenne, as well as Osler, the Canadian lawyers implicated in the Continental Trading Co., were homesick and would like to come back to the United States, even if they did not want to testify. However, the gossips who pretended to tell about the terrible homesickness of the two fugitive witnesses, did not go so far as to suggest that they would appear, unexpectedly or at all, at the trial.

There is talk of passing a statute forbidding an American who refuses to give testimony before a foreign official for use in the United States, the right to return to his country at any time.

WAUKON, IA.—Waukon Oil Co. has had this year the largest gallonage and the most successful year in the five years that it has been in business, said Joe White, manager. Collections have been good and the company is looking forward to a prosperous 1927.

LEWISTOWN, Mont.—Equipment for the manufacture of ethyl gasoline has recently been added to the plant of the Lewiston Oil & Refining Co. here. The gasoline is being sold to the Continental Oil Co., of Denver, Colo., for distribution in Montana.

CELINA, O.—Citizens Oil Co., which recently sold its properties to The Refiners Oil Co., of Dayton, O., will reenter the oil business at Lima, O. Its first service station will be built at the corner of Elm and Pine Sts., reports C. F. June, of the Citizens company.

LOS ANGELES.—Irvine E. Stewart, consulting geologist, who formerly had headquarters at Denver, Colo., has been named chief geologist for the California Petroleum Corp. with offices at Los Angeles. He succeeds E. Call Brown,

EVANSVILE, IND.—Fisher-Price Oil Co., with headquarters here, is now operating as the Fisher Bros. Oil Co.

A.I.M.E. Has Well Rounded Program For Meeting in New York, Feb. 14

NEW YORK, Jan. 14. NOMINATIONS for officers of petroleum division of the American Institute of Mining and Metallurgical Engineers for 1927 have been made by the nominating committee, according to announcement made by F. Julius Fohs, present chairman. The list is as follows:

Chairman—John M. Lovejoy, Tulsa, vice-president of the Amerada Petroleum Co.

Vice-chairman for refinery engineering—Walter Miller, Ponca City, Okla., vice-president of the Marland Refining Co.

Vice-chairman for production engineering—Dr. J. B. Umpleby, Oklahoma City, vice-president of the Goldelline Oil Corp.

Associate vice-chairman for production engineering—T. E. Swigart, Los Angeles, production engineer for Shell Co. of California.

Vice-chairman for production—W. E. Wrather, Dallas, consulting geologist.

Associate vice-chairman for production—Joseph Jensen, Los Angeles, Associated Oil Co.

Vice-chairman for transportation engineering—F. K. Haskell, Bartlesville, manager, Empire Pipe Line Co.

Vice-chairman for economics—Joseph E. Pogue, New York, consulting geologist.

These names, or others that may be placed in nomination at the time of election, will be voted on during the annual meeting of the A. I. M. E., which will be held in New York, Feb. 14-17.

At the same time, Chairman Fohs announced the general plan of the meeting of the petroleum division. As in the 1926 meeting the sessions will be grouped under several headings. The program follows:

(1) Reviews for 1926

F. Julius Fohs, chairman, presiding

1. **Production and Development in 1926**—James H. Gardner, president, Gardner Petroleum Co., Tulsa, Okla., and vice-chairman, production, pet. division, A. I. M. E.
2. **Advance in Refining Technology**—Charles H. Osmond, Crandall & Osmond, New York City.
3. **Advances in Production Engineering**—T. E. Swigart, prod. eng. Shell Co. of California, Los Angeles.
4. **The Trend of the Petroleum Situation**—Joseph E. Pogue, consulting engineer, New York City.

Refining Symposium

Wednesday, Feb. 16, 9:30 A. M. and 2:00 P. M.

Charles H. Osmond, vice-chairman, presiding

1. **Advance in Cracking**—A free discussion not to be published.
2. **High Cracked Gasolines**—
   (a) Chemistry—Dr. Benjamin T. Brooks, consulting chemist, New York.
   (b) High Cracked Gasolines and High Sulfur Content—Jacques Morrell, Gustav Egloff, Universal Products Co., Chicago.

Discussion: I. K. Giles, Warner-Quinlen Co., Warner's N. J.; H. R. Gundlach, Inter-Ocean Refining Co., Baltimore, Md.

3. **Recent Developments in Fractionation as Applied to Tube Still Distillation**—C. L. Smith, Pure Oil Co., Chicago, Ill.
   Discussion—Herschel Smith, Gulf Refining Co., Houston, Tex.; H. E. Widdell, Arthur C. McKee & Co., Cleveland, Ohio; W. A. Peters, E. B. Badger & Sons, Boston, Mass.; Walter E. Lummus, Pres. Walter E. Lummus Co., Boston, Mass.; George A. Burrell, Pittsburgh; H. O. Swanson, Power Specialty Co., N. Y.
4. **New Methods of Refining Lubricating Oils**—E. R. Lederer, Texas Pacific Coal & Oil Co., Forth Worth, Texas.
   Discussion—Walter Miller, V. P. Marland Refining Co., Ponca City, Okla.
5. **Low Vacuum Process in Refining Asphaltic Base Oils**—John Schulze, Red River Refining Co., Burnham, Ill.
   Discussion—Mr. Kramer, Shell Co. of California, Los Angeles.
6. **Refining Light Mexican Crudes**—John Poole, Mexican Eagle Co., Tampico, Mexico.

Production Engineering Symposium

Wednesday, February 16, 9:30 A. M. and 2:00 P. M.

T. E. Swigart, vice-chairman, presiding

1. **Methods of Drilling and Lifting Oil in Mexico**—Paul Weaver, Gulf Refining Co., Houston, Texas.
   Discussion—E. L. Estabrook, Pan-American Exploration Co., N.Y.
2. **Methods of Cementing Casing and of Plugging Wells in Mexican Fields**—B. E. Parrish, Tampico, Mexico.
3. **Problems of Production Engineering in Venezuela**—a discussion—Speakers to be announced.
4. **Some Problems in Production Engineering in Africa and Elsewhere**—Chester A. Naramore, Sinclair Refining Co., N. Y.
5. **Some New Aspects of the Gas Lift**—E. O. Bennett and K. C. Sclater, Marland Oil Co. of Texas, Fort Worth.
6. **Advances During 1926 on Water Drive and Other Methods in Bradford Field**—J. B. Umpleby, V. P. Goldelline Oil Corp., Oklahoma City.
7. **Core Studies of the Second Sand of the Venango Group**—Prof. Charles R. Fettke, Carnegie Institute of Technology, Pittsburgh.
8. **Researches on Surface Tension Made Relative to Flotation Problems and Its Application to the Problem of Surface Tension in Oil Sands**—Speaker to be announced.
9. **Capillary Retention of Petroleum in Unconsolidated Sands**—Prof. L. C. Uren and A. E. El Difrawi, University of California, Berkeley, Cal.
10. **Recovery of Gasolines from Natural Gas in Mexico**—O. A. Larrazola, chief eng. Hussteca Pet. Co., Tampico, Mexico.
11. **Advances in Casinghead Practice—Absorption Method and Recompressors**—Lloyd F. Bayer, Tidal Oil Co., Tulsa, Okla.
12. **California Practice in the Transmission of Highly Viscous Oils Through Pipe Lines**—A. S. Jones, manager, Associated Pipe Line Co., San Francisco, Cal., and C. P. Bowie, U. S. Bureau of Mines, San Francisco.
13. **Review of Drilling Equipment Advances**—Ward B. Blodget, asst. mgr. Chanslor-Canfield Oil Co., Los Angeles, Cal.
14. **Bituminous Sands of Northern Canada**—S. C. Ells, Department of Mines, Ottawa, Canada.

Corrosion Symposium

Thursday, Feb. 17th, 9:30 A. M. and 2:00 P. M.

Frank N. Speller, presiding

Introductory Remarks:

1. **Co-operative Research and the Corrosion Problem**—F. N. Speller, Pittsburgh, Pa.
2. **Corrosion Research**—Udlick R. Evans, King's College, Cambridge, Eng.
3. **Sulfur in Petroleum**—A. E. Wood, Mississippi College, Clinton, Miss.
4. **Use of Ferrous Alloys as a Preventive of Corrosion**—John A. Mathews, V. P., Crucible Steel Co. of America, N. Y.
5. **Use of Alloys as a Corrosion Preventive in Europe**—Wm. Minot Guertler, Berlin, Germany.
6. **Corrosion of Pumping Equipment**—Discussion led by Hamilton Garnsey, Jr., Goulds Pumps, Inc., Seneca Falls, N. Y.
7. **Pipe Line Corrosion—Suggested Research Activities**—E. P. Bly, Standard Oil of California, San Francisco.
8. **Corrosive Effect of Soils on Pipe Lines**—Kirk H. Logan, U. S. Bureau of Standards, Washington. (This paper was prepared for this Petroleum Division, A. I. M. E. Corrosion Symposium, but was presented, in slightly altered form, at the corrosion conference of the A. P. I. meeting at Tulsa. It will be open for discussion at this meeting. Mr. Logan will present the final results of the fourth year period of the Bureau's Soil Corrosion tests at this session).
9. **Corrosion as Affecting Gasoline Plants**—R. W. Finney, H. W. Young, Midwest Refining Co., Casper, Wyoming.
   Discussion—George A. Burrell, consulting chemical engineer, Pittsburgh, Pa.
10. **Refinery Corrosion Problems**—Walter Samans, chief engineer, Atlantic Refining Co.
    Corrosion of Pressure Stills—Gustav Egloff, Universal Products Co., Chicago, Ill.
11. **Refinery Corrosion Problems**—H. F. Perkins, Golf Refining Co., Port Arthur, Texas. (This paper was prepared for this Petroleum Division, A. I. M. E. Corrosion Symposium, but was presented, in slightly altered form, at the corrosion conference of the A. P. I. meeting at Tulsa. It will be open for discussion at this meeting).
12. **Oil Well Corrosion—Its Causes and Prevention**—R. Van A. Mills, pet. eng. U. S. Bureau of Mines, Bartlesville, Okla.

Production Symposium

Thursday, Feb. 17, 9:30 A. M. and 2:00 P. M.

James H. Gardner, vice-chairman, presiding

California—Joseph Jensen, geologist, Associated Oil Co., Los Angeles.
Kansas-Oklahoma—Henry Loy, Elmwood Oil & Gas Co., Tulsa.
Kansas-Oklahoma—Future of—Luther H. White, J. A. Hull Co., Tulsa.
Gulf Coast—Sidney A. Judson, geologist, Humphreys Corp., Houston, Tex.
Texas-Outside Gulf Coast—R. B. Whitehead, Dallas, Tex.
Arkansas-Louisiana—H. D. Easton, Shreveport, La.
Rocky Mountain District—Fred E. Wood, pet. eng., Midwest Refining Co., Casper, Wyo.
Appalachian Fields—George Turnbull, oil editor, Derrick Publishing Co., Oil City, Pa.
Mississippi Valley Fields—Gail F. Moulton, pet. geol., Illinois Geological Survey, Urbana, Ill.
Mexico—Walt M. Small, chief geol., Compania Petrolora del Agwi, S. A. Tampico, Mexico.
Colombia and Peru—J. Terry Duce, geologist. The Texas Co., N. Y. Edwin B. Hopkins, cons. pet., geologist, N. Y.

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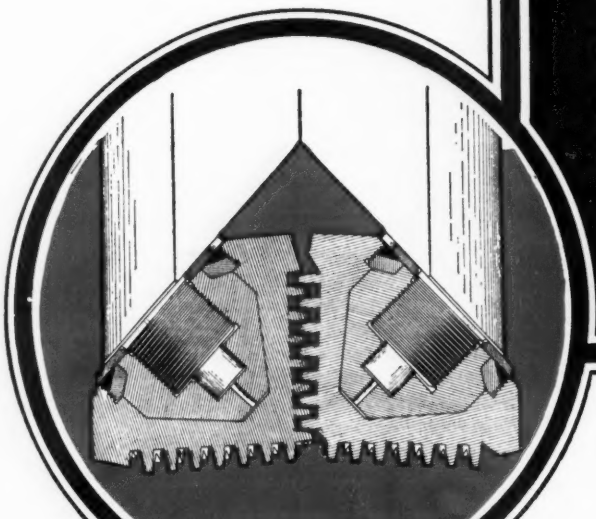

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Argentine—Jose. M. Sobral, Direccion General de Mines, Buenos Ayres, Argentine, S. A.

World Production and Near East—Valentin R. Garfias, Mgr., foreign oil department, H. L. Doherty & Co., N. Y.

Russia—Basil B. Zavoico, Sinclair Oil & Gas Co., Enid, Oklahoma.

Petroleum Economics Symposium

Tuesday afternoon, Feb. 15, 1927

Joseph E. Pogue, vice chairman, presiding

1. **The Economic Trend of the Gasoline Situation**—Barnabas Bryan, Jr., consulting economist, New York City.
2. **The Economics of Casinghead Gasoline**—Speaker to be announced.
3. **Relation of Petroleum to Industry**—Arthur Knapp, pet. eng., United Gas Improvement Co., Philadelphia.
4. **Economic Position of Fuel Oil**—C. Campbell Osborn, economist, Marland Oil Co., Ponca City, Okla.
5. **Economic Aspects of Lubricating Oils**—Charles W. Stratford, Associated Oil Co., San Francisco.

Round Table Discussion on Petroleum Engineering Educational Problems

Wednesday, Feb. 16, 2:00 P. M., Thursday, Feb. 17, 9:30 A. M.

Led by Dr. H. C. George, director school of petroleum engineering, University of Oklahoma, Norman, Okla.

Production Engineering—Lester C. Uren, prof. pet. eng. University of California, Berkeley, Cal.; John R. Suman, V. P., Rio Bravo Oil Co., Houston, Texas; Walter P. Jeffery, Pres. Western Torpedo Co., Toledo, Ohio; J. B. Umpleby, V. P. Goldelline Oil Corp., Oklahoma City, Okla.; A. M. Ambrose, mgr. of production, Empire Co., Bartlesville, Okla.

Refinery Engineering—R. C. Beckstrom, prof. pet. eng. Colorado School of Mines, Golden, Colorado; H. A. Smith, supt. exp. station, U. S. Bureau of Mines, Bartlesville, Okla.; Fred W. Padgett, prof. refinery eng., Univ. of Okla., Norman, Okla.; W. F. Faragher, prof. refinery eng., Univ. of Pittsburgh, Pittsburgh, Pa.; Walter Miller, V. P. Marland Refining Co., Ponca City, Okla.

Transportation Engineering—Prof. L. C. Lichty (Yale), 9 Hill House Avenue, New Haven, Conn.; C. P. Bowie, U. S. Bureau of Mines, San Francisco, Cal.; Dean E. Foster, Tulsa, Okla.; Charles Fitzgerald, gen'l supt. Pure Oil Pipe Line Co., Dallas, Texas; Wm. G. Hertzel, Sinclair Pipe Line Co., Tulsa; G. E. Piper, Buckeye Pipeline Co., N. Y.; W. R. Finney, Midwest Refining Co., Casper.

Economics and Management—Roswell H. Johnson, prof. oil & gas prod., University Pittsburgh, Pittsburgh, Pa.; Samuel J. Caudill, consulting pet. engineer, Tulsa, Oklahoma; Arthur Knapp, pet. eng., Philadelphia, Pa.; Joseph E. Pogue, cons. eng., N. Y.; A. W. Peake, gen'l supt. prod. dept. Widwest Refining Co., Casper, Wyoming.

Basic Training and Pre-requisites—E. L. Estabrook, chief pet. eng., Pan-American Exploration Co., N. Y.; Reed D. Bush, State Oil & Gas Superv.; San Francisco, Cal.; Robert Peele, prof. mining eng., School of Mines, Columbia Univ., N. Y.; James H. Gardner, V. P. Gardner Pet. Co., Tulsa, Okla.; Edson S. Bastin, Chicago, Ill.; Charles L. Buerger, gen. mgr. Gulf Refining Co., Pittsburgh.

Geological Engineering—Charles L. Dake, prof. of geology, Missouri School of Mines, Rolla, Missouri; V. E. Monnett, director, School of Geol. Engineering, Univ. of Okla., Norman, Okla.; K. C. Heald, geologist, Gulf Refining Co., Pittsburgh, Pa.; F. W. DeWolf, Humphreys Corp., Houston; William E. Emmons, Univ. of Minnesota, Minneapolis.

Graduate Courses—Theodore J. Hoover, dean school of eng., Stanford University, Palo Alto, Cal.; R. E. Davis, engineer, Pittsburgh, Pa.; John Primrose, Power Specialty Co., N. Y.

Laboratories and Equipment—A. F. Melcher, Marland Refining Co., Ponca City, Okla.; R. Van A. Mills, Bureau of Internal Rev., Washington, D. C.; C. V. Milliken, Amerada Petroleum Co., Tulsa, Okla.; C. E. Beecher, Empire Co., Bartlesville, Okla.; Dr. Gustav Egloff, Universal Oil Products Co., Chicago, Ill.; Dr. T. G. Delbridge, Atlantic Refining Co., Philadelphia.

Availability of Lecturers to Supplement College Staffs—R. J. St. Germann, eng., Tulsa, Okla.; C. W. Tomlinson, mgr. Schermerhorn Interests, Ardmore, Okla.; John M. Lovejoy, Mid-Cont. mgr., Amerada Pet. Co., Tulsa, Okla.; W. E. Wrather, cons. geol., Dallas, Texas; A. D. Brokaw, Dixon, Brokaw, Garner & McKee, N. Y.; G. Clarke Gester, Standard Oil of Cal., San Francisco, Cal.

Round Table Discussion on Petroleum Engineering Research Problems

Tuesday, Feb. 15, 1927, 2:00 P. M.
Thursday, Feb. 17, 1927, 2:00 P. M.

Led by William E. Wrather, consulting geologist, Dallas, Texas

This discussion will be participated in by practically the same group as in the Round Table Discussion on Petroleum Engineering Educational Problems and many of the speakers in the various symposiums.

Tidewater Plant Shipments Held In Interstate Commerce

WASHINGTON, Jan. 14.

THE United States circuit court of appeals for the southeastern states has ruled, in Atlantic Coast Line vs. Standard Oil Co. of Kentucky that every sort of petroleum product, except lubricating oil, coming into Tampa, Fla. from Tampico, Mex. and Baton Rouge, La., by tank steamer is clearly in commerce between the states and with foreign countries. Thus, when the Standard distributes it from Tampa to points in Florida, it must pay the interstate freight rates, which are higher than rates established by the Florida railroad commission.

As to lubricating oil, because it is not distributed directly from the tanks into which it may be pumped from the steamer, the court held that it had become so mingled with the commerce of Florida that it was entitled to take Florida made rates.

As to petroleum products taken to Jacksonville for distribution, the court holds that, inasmuch as the Standard does not know to whom the product is going, the Florida rates apply when distribution is made from Jacksonville.

This case, unless reversed by the Supreme Court of the United States to which it is believed it will be taken, looks as if it were considerable of a jolt to the tidewater distributing stations built up by the big refining companies, from which they have been distributing their products usually on state-made freight rates.

Tidewater Plants Affected

ON the face of it this latest decision looks to be in direct contrast with one of exactly the same title brought in North Carolina when the railroads undertook to charge the Jersey Standard interstate rates on products shipped from its tidewater station at Wilmington to destinations in North Carolina. In that case the lower court held the oil company was entitled to the state-made rates because the company, when it brought oil to Wilmington, did not know where it would have its final destination and, therefore, the two shipments, the first by tank steamer and then by railroad, were distinct operations. The Supreme Court affirmed that by refusing to review it.

However, the court, in the Florida case, said that the company knew exactly where the fuel oil was going when it was brought to Tampa and that so large a percentage, 95 per cent of all products, was distributed to points known at the time the shipments in tank steamers were started from Tampico and Baton Rouge, that there was only one transaction, and that in commerce between the states or with a foreign nation.

The decisions used by the court as precedents for the decision in this case were made in cases in which all the carriers involved were subject to the interstate commerce act. In this case, however, the tank steamers are not subject to that act. That may make a difference if and when the Supreme Court comes to consider the case.

NEW WELL CELEBRATES NEW YEAR

WICHITA, KANS.—Vickers Petroleum Co. and T. C. Johnson closed the old year by bringing in a producing well which extends the Churchill pool of Summer county, Kans. three-fourths of a mile to the northeast. The well, located in the SW NE SE of 24-31-2, found a sand in the Stalnaker horizon at 1951 feet and at two feet in the well began to flow. It is estimated good for 1,000 barrels.

The sand is a new one for this region and has been named the Cline sand, for Dr. Justus H. Cline, formerly state geologist of Virginia and now geologist for T. C. Johnson. Dr. Cline located the test. The pay is lower, stratigraphically than the Churchill sand, producing in the main pool.

MILTON, IA.—G. W. Holdefer, who is conducting a wholesale and retail oil business under the name of Holdefer Oil Co., is completing a bulk station here which he expects will be ready to open soon. Gasoline, kerosene and lube oils will be handled.

TRAVERSE CITY, MICH.—W. O. Garrett has opened a service station here and is selling Red Crown gasoline and Polarine and Iso Vis oils.

Ohio Sealer Extends Time Limit For Remedying Pumps

By Roger B. Stafford
N. P. N. Staff Writer

CLEVELAND, Jan. 15

THE Ohio state sealer of weights and measures has granted Ohio gasoline distributors until June 30, 1927, to alter their pumps to conform to the regulations issued last September. March 31, 1927, had been the date by which various contrivances and devices were to have been added to old equipment to make them proof against short measuring.

In a letter issued a few days ago by Charles V. Truax, state sealer, Dec. 20, 1926, was set as the date previous to which pump installations might be regarded as old equipment. Installations made before that date now have until June 30 to meet the latest state requirements; installations after Dec. 20 must have all devices provided in the latest Ohio regulations. The previous date had been Sept. 1, 1926. The regulations and some of the required devices were outlined in National Petroleum News for Oct. 27, 1926, page 60.

Some of the regulations have been regarded as unfair and unreasonable by both pump manufacturers and oil companies. Several of them are unnecessary and have caused Ohio gasoline distributors to pay premiums for pumps such as are required in no other state. Examples of some of the requirements are three columns of markers in bowls of visible pumps that are more than 9¾ inches in diameter; duplication of dials; markers with the legend "To Storage" or "To Car" on pumps with only one outlet from the bowls and that outlet through the hose, and sight glasses so the buyer can see the gasoline bubble into the hose.

Based on Whimsy

SOME of the state regulations which, it is charged, are not based on whether the pump measures gasoline accurately but more on personal whimsy. The liquid measure regulations recommended last spring by the National Conference of Sealers of Weights and Measures which form the basis of weights and measures rules in many states, was adopted by Ohio but "interpretations" of these regulations made in Ohio so confused the pump issue in this state that neither manufacturers nor gasoline distributors knew what to do next. Manufacturers, following verbatim the adopted regulations, found their pumps locked when installed in Ohio as failing to meet some requirement in the "interpretations" or the whims of a local sealer who was accountable only to some local authority and not to the state sealer.

One company, the Guarantee Liquid Measure Co., Rochester, Pa., (Fry) last fall withdrew from the Ohio gasoline pump market although the state sealer approved its No. 87 model, a 10-gallon pump with 9¾-inch bowl and wet hose. Installations of two other models, together with four models made by the American Oil Pump & Tank Co., Cincinnati, one by Milwaukee Tank Works, Milwaukee, and one by Gilbert & Barker Mfg. Co., Springfield, Mass., have been prohibited under a decree dated Dec. 7, 1926. All models were of the adjustable tube type and the state sealer's complaint was that they permitted gasoline

(Continued on page 72)

One Ohio Company's Orders Concerning Pumps

CLEVELAND, Jan. 15

ONE large Ohio distributor has sent to all its stations the following letter which has been commended by the state sealer:

"GASOLINE PUMPS—Pumps should never be used unless sealed with linen tag or State seal, or both. Any pumps that the sealer refuses to seal should be reported at once, giving full particulars as to cause of rejection.

"All new pumps in the future will be purchased from the manufacturer with a guarantee that they comply with all state requirements, and if for any reason the local sealer claims that any new pump, or pumps, do not meet the state requirement and refuses to seal—make a complete report and do not use until properly sealed. State department assures us that when pumps are equipped as listed that they will be satisfactory according to construction, but a field test will be necessary to fully determine if correct in every particular.

"Do not remove pumps to new locations except those that have been approved. Condemned pumps must not be transferred until changes are made to meet requirements. In each case notify local sealer before making transfer."

All Pumps Installed Prior to Dec. 20, 1926

"BLIND PUMPS—All blind pumps must be equipped with sight glass of not less than 1¾", inside diameter, placed on delivery line near hose inlet, so that customer can see flow of gas to car.

"They must also be equipped with dial indicator of not less than 6" in diameter automatically showing gallons delivered.

"When pumps are located on an island two dials must be provided for each pump, or in place of dial on operator's side of pump indicators may be used on the gallon stops of not less than ½-inch letters and of different color.

"METER SYSTEMS—All meter systems shall be equipped with a suitable sight glass, located at hose inlet, to show customer flow of gas to car.

"VISIBLE BOWL PUMPS—Two rows of markers, placed inside or outside of bowl, shall be provided and installed for curb pumps and three rows of markers for island pumps.

"Sight glass shall be attached to hose inlet between valve and bowl when complete delivery is not visible to customer, especially when there is a trap in delivery line.

"When it is possible to divert any gas while the hose nozzle is in the auto tank a sign "To Storage," of different color from background, must be provided—make of letters not less than ½-inch in size. Said sign to be placed where customer can read it.

"All adjustable overflow pumps where gas can go to car and storage at the same time when tube is lowered, there should be two signs provided "To Storage" and "To Car" of letters not less than ½" and placed to show direction of flow so that customer can see plainly. These signs must operate automatically. The bowl should be kept empty and filled with the amount of purchase at the time of delivery. A sign should be placed on the pump so stating. Sliding tubes with 9¾" bowl can be used as an eye measure by fastening the adjustable tube at the top with a U bolt and sealed by the owner or operator.

"Before changing any old pumps in any locality take it up with local sealer—show him copy of these instructions and if he makes any objections refer to this (the home) office—giving full particulars before making changes."

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PROFITABLE *because*

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You can service cars in half the time required by former methods while, with full rotation, plenty of light, air and elbow room, your men take pleasure in their work.

2

Fast, clean, visible and efficient service attracts an ever-growing list of regular customers.

3

Doubles and trebles oil and grease sales. Will easily bring oil sales up to 5% of gas sales.

4

Leads to "complete lubrication service" and crankcase refills instead of the sale of single quarts of oil.

5

"Safety Lift" advertises your station and helps to sell more gas and other products.

and

SAFE *because*

1

Patented Safety Column automatically supports the lift in emergency. It *cannot* drop to injure car or workmen.

2

NO PIT in which to drive, step or fall.

3

Positive control of speed both up and down. Control valve in cylinder prevents rapid lowering.

4

High guide rails keep car on channels. The most timid driver can approach safely from any direction.

5

Not only built to insure safety but a blanket insurance policy protects **"Safety Lift"** owners against liability.

and

ECONOMICAL *because*

1

Costs little to install, in any type of driveway, with only one small hole to excavate and one pouring of concrete. We furnish the form.

2

Is easy and inexpensive to remove and relocate.

3

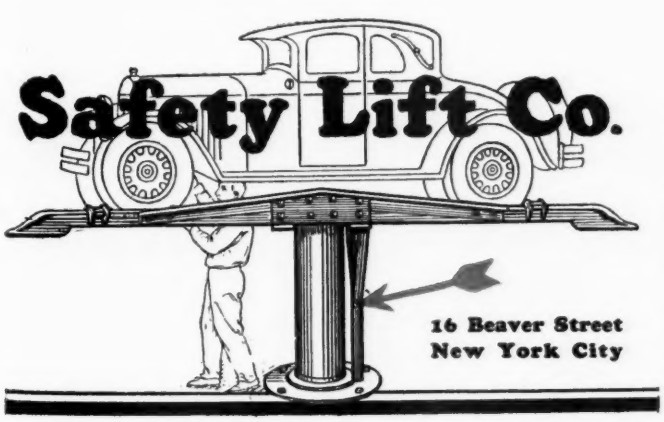
Takes up less valuable space in yard or building and, as it rotates as well as lifts, it does away with the manoeuvering of cars.

4

NO PIT to collect snow, ice, water, leaves or grease. Makes it easy to keep clean.

5

"Safety Lift" will operate ten years with practically *no* cost for maintenance.



Use this coupon to obtain full information on the "Safety Lift." The sooner you buy Safety Lifts the quicker you will increase your profits—mail the coupon *NOW!*

SAFETY LIFT COMPANY
16 Beaver Street, N.Y.C.

Please send bulletin describing "Safety Lift" and advise address of nearest distributor.

Name _____

Address _____

Products that Satisfy

Satisfied Customers are the life of your business— ***and there is nothing that satisfies like real quality, at the right price.***

Humble Products "repeat" because their quality is right. Each one of them—and there is one for each lubrication need—has been carefully designed and prepared, and thoroughly tested to see that it meets the most rigid requirements.

Our line is complete, and our refinery facilities are such that we can take care of your needs at all times — making prompt shipments, in any quantity you may desire—a carload or a shipload—by rail or water, to any point on the globe.

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"Zero Cold Test Oils"
Producers—Pipe Lines
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(Continued from page 70)

to be diverted to storage and delivered to car at the same time.

List of Approved Pumps

LIKE the Fry, the last three mentioned manufacturers have pumps which appear on the state's list that meets Ohio specifications. The manufacturers on the state's revised list and the models of their pumps are:

American Oil Pump & Tank Co., Cincinnati—Models 1343, 1443, DV, GV, DUV, 204V, 404V, 1145V, 1325V, 1147V, and 1327V.

Dayton Pump & Mfg. Co., Dayton, O.—Models 200 and 450.

United States Pump Co., Cincinnati—Models B40, B41, and B42.

Guarantee Liquid Measure Co., Rochester, Pa.—Model 87.

Milwaukee Tank Works, Milwaukee—Model 364.

National Recording Pump Co., Dayton, O.—National Visibowl, National Duplex, and National Simplex.

Erie Meter Systems, Erie, Pa.—Metering system with clock face meters.

Pittsburgh Gasoline Pump Co., Pittsburgh—Model A.

Wayne Pump & Tank Co., Fort Wayne, Ind.—Models 480, 515, 515F, 517, 517F, 519 and 519F.

Pennsylvania Pump Co., Pittsburgh—Models 7 and 717.

Tokheim Oil Pump & Tank Co., Fort Wayne, Ind.—Models 600 and 605.

S. F. Bowser & Co., Fort Wayne, Ind.—Models C81, 97 and 99.

Gilbert & Baker Mfg. Co., Springfield, Ma.—Models T65 and T99.

Correct Measure Co., Rochester, Pa.—Model 10H and 5H.

Fleckenstein Visible Gasometer Co., Grand Rapids, Mich.—Models 500 and 400.

Pittsburgh Meter Co.—Meters.

Additions since the publication of the sealer's original list in National Petroleum News for Oct. 27, 1926, have been:

Shotwell Pump & Tank Co., Boston and Indianapolis—Models 350, 900, 350F, 360F, 900F, 350TP, 360TP, 900TP, 525 and 550.

Raymond Garage Equipment Co., Adrian, Mich.—10-gallon visible.

Joy Mfg. Co., Long Beach, Calif.—Model 77.

Farr Hydraulic Meter Systems, New York—Metering system with clock face dial.

Under the Dec. 7, 1926, decree of the state sealer all blind pumps must have sight glasses; all visible pumps must have sight glasses when complete delivery cannot be seen and when any gasoline can be diverted to storage while the hose nozzle is in the automobile tank, it must have a sign which reads, "To Storage."

"Fill at Delivery Time"

THEN follows this paragraph: "On all pumps constructed so that gas quickly goes to storage when adjustable tube is lowered, must be made safe as possible by proper attachments as listed, and be operated with bowl to be filled with amount of purchase at time of delivery, with sign No. 4 attached, or the adjustable tube on the 9¾-inch bowl securely fastened at the top, with a bolt sealed, and equipped to be used as an eye-measure pump." The definition of sign No. 4, taken from the sealer's circular is, "Bowl to be filled at time of delivery."

The foregoing quotations are not contained in the latest published book of weights and measures specifications but are from a mimeographed circular sent from the state sealer's office at Columbus. At one place in the "interpretations" in the specifications book this paragraph appears: "It is only fair to use a reasonable operating speed on this test (the elapsed time test for blind piston pumps), and as there is now in process of manufacture devices that bowl is not to be filled only at time of delivery, and exempt from this test in so far as the one and six-hour test applies, but must hold liquid long enough to make accurate delivery to car."

This is a sample of the confusion of ideas in the "interpretations" of the Ohio regulations, a confusion of a blind pump test with the visible pump. National Petroleum News recently received inquiries from Ohio distributors asking whether it was necessary to keep bowl of visible pump empty except when delivery was to be made to a car. The regulations contain no such provision although in some places local fire regulations may contain such provision. There is no such regulation in Cleveland.

F. H. Bedford Retires From Oil Industry

NEW YORK, Jan. 17.—The retirement on Jan. 1 of Frederick H. Bedford as a vice-president of the Standard Oil Co. of New Jersey marked the passage of a second member of the famous Bedford family from the oil industry in a year. The other member of the family was A. C. Bedford, chairman of the New Jersey company, uncle of Frederick H. Bedford.

Starting in the flour business many years ago Frederick H. Bedford later entered the oil industry where like his brother Edward T. Bedford, he rapidly progressed until he became president of the Standard Oil Co. of Brazil. Later on he became vice president of the Standard Oil Co. of New Jersey and in this position he assumed charge of that company's export lubricating oil business. His son, Frederick H. Bedford, Jr., is closely folowing in his father's footsteps.

Prior to the Civil War, Alfred Bedford, father of Alfred Cotton Bedford, and Frederick Thomas Bedford, father of Frederick H. and Edward T. Bedford were prominent citizens of Brooklyn. However, the war interfered with their business to such an extent that during the second year of the war Alfred Bedford moved to Green Farms, Conn. In later years the sons returned to Brooklyn where they entered the business world and later established themselves in the oil industry. Today Frederick H. Bedford owns a farm at Green Farms, to which he intends to devote himself.

GALLIPOLIS, O.—C. R. Niday, who was formerly owner of the Niday Supply Co., has entered the oil jobbing and marketing business here under the name of the C. R. Niday Oil Co. Mr. Niday has already installed 100,000 gallons storage capacity and new equipment for four service stations.

Win Penn
MOTOR OIL
Keynoil
MOTOR OIL
White Eagle Oil and Refining Co.
MARATHON MOTOR OIL
TRANSCONTINENTAL OIL CO.
HEAVY STANDARD MOTOR OIL
HYVIS
MOTOR OIL
Super-refined pure Pennsylvania
SUPREME
AUTO OIL
GULF REFINING CO.
FLYOLENE
CONOCO
TRANSMISSION OIL
HAVOLINE
the power oil
HERCULENE OILS
FOR HERCULEAN TOILS
HIGHEST QUALITY
CONOCO
MOTOR OIL
LIGHT
CONTINENTAL OIL COMPANY
OIL
PIERCE PETROLEUM CORPORATION
To open, merely raise the lever and push with thumb.
To reseal: replace cap on can and push lever down.
The SEAL for CANS
Seals and Reseals Perfectly
Can't Jar Loose
Easy to Open Without a Tool
KORK-N-SEAL Nozzle pours smooth, steady stream. No afterdrip to collect dust and grit. No special spout or funnel necessary. Economical, Attractive, Convenient—and, So Safe.
Willliams Sealing Corporation
Decatur, Illinois
Williams
KORK-N-SEAL
THE CAP WITH THE LITTLE LEVER
PENNANT
OIL
PIERCE PETROLEUM CORPORATION
PENNZOIL
SAFE LUBRICATION
HEAVY
THE PENNZOIL COMPANY
Hermoline
HERRING MOTOR COMPANY
MARLAND
MOTOR OIL
MARLAND REFINING CO.
MEDIUM STANDARD MOTOR OIL
STANDARD OIL COMPANY
PANOLENE
PANHANDLE REFINING COMPANY
MOTOR OIL
MORE POWER TO YOU
"SINCE 95"
SULLIVAN
OIL
EVERY DROP LUBRICATES
SULLIVAN OIL COMPANY
CHICAGO
"FOR FORD CARS"
WARCO
MOTOR OIL
WARCO
HEAVY STANDARD MOTOR OIL
STANDARD OIL COMPANY
Canfield
OIL
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PETROLEUM

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GASOLINE
NAPHTHA
GAS OILS
PARAFFINE WAX
ASPHALT

Fuel Oil--Lubricating Oils

CYLINDER ENGINE
CORDAGE

RED AND PALE PARAFFINE OILS

A. D. Little Entertains on 40th Anniversary

BOSTON, Jan. 13.—Arthur D. Little, Inc., chemical engineers, celebrated its fortieth anniversary at a banquet in its laboratories on Dec. 30 which was attended by 100 or more present and former members of its staff.

Dr. James F. Norris, president of the American Chemical Society, presented the congratulations of the chemical profession, and greetings were read from former associates, many of whom are now prominent in chemical and engineering fields.

Dr. A. D. Little, president of Arthur D. Little, Inc. briefly reviewed the history of his organization, which began business on Oct 1, 1886, as a firm under the style of Griffin & Little, with office and laboratory on the top floor at 103 Milk Street, Boston. The business which first came to the firm was chiefly analytical, though for a number of years special emphasis was also given to consulting work in the pulp and paper industry in which Dr. Little had previously been active, his initial job having been that of superintendent of the first sulfite pulp mill in the United States.

Roger B. Griffin, Dr. Little's partner and father of Mr. Roger C. Griffin, chief chemist of the present organization, died in 1893 as the result of an explosion in the laboratory. Six years later the laboratory was moved to somewhat larger quarters at 7 Exchange place, and the scope of the business was extended.

Shortly after, in 1900, the firm of Little & Walker was organized. The partnership was dissolved five years later, when Dr. William H. Walker assumed the professorship of Chemical Engineering at Massachusetts Institute of Technology.

In 1902 another move was made—this time to 93 Broad St. Here the firm occupied at first half and later the entire sixth floor, but soon the fifth floor also was taken over, and then the fourth, as new departments were established and an organization developed.

In 1909 the concern was incorporated as Arthur D. Little, Inc. There were by this time many specialists on the staff, and departments were maintained for analyses and tests, research, fuel engineering, lubrication, forest products, biology, textiles and chemical engineering. Although the company was without an organized sales department, the gross business rapidly increased until, in 1911, it was eight times what it had been in 1904.

By 1914 the need for enlarged quarters and more working capital became imperative, and the company was reorganized with $250,000 preferred and $500,000 common stock, and plans were started which culminated in the present model industrial research laboratory building on Charles River Road, Cambridge.

Mid-Continent Gasoline Markets Were On Stable Basis During 1926

By J. C. Chatfield
N. P. N. Staff Writer

TULSA, Jan. 15.

MID-CONTINENT gasoline markets were more stable in 1926 than in any year since 1918. In 1918 the market was ruled largely by war conditions, however, while stabilization was achieved in 1926 in the regular course of trading without the influence of extraordinary conditions of supply and demand.

The new stability of gasoline markets has been the result of:

1. A more steady crude market.

2. Conservative manufacturing operations by refiners with strict adherence to a policy of low inventories of finished commodities.

Mid-Continent crude prices have been as free from violent fluctuations as the gasoline market for the same reason. Production has not been excessive when measured by the ability of buyers to consume the raw material.

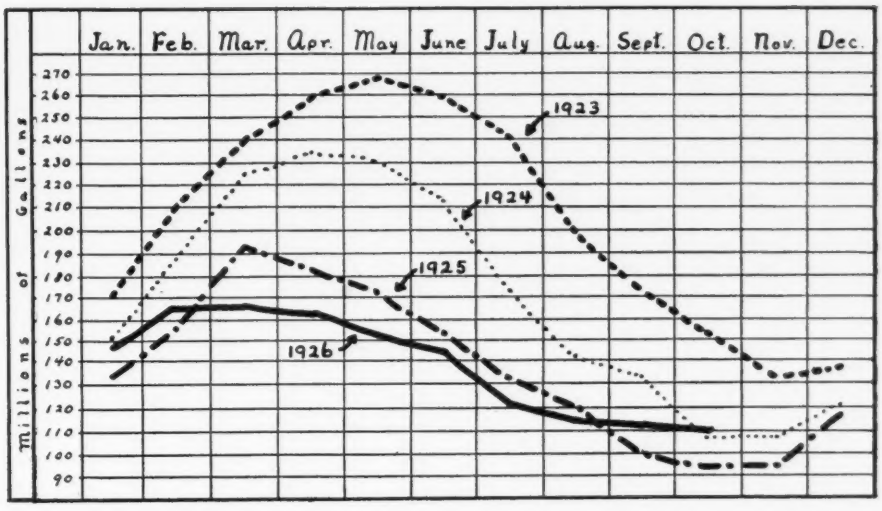
Price Range Is Narrower

THE lowest posted price for Mid-Continent crude was in effect in January. Throughout that month the price of 36 gravity oil, for example, was $1.79 a barrel. The highest price for this grade of crude was posted May 17. On that date the market was raised to $2.29 a barrel where it remained until Nov. 17. The highest price for the year was only 50 cents a barrel more than the lowest price. In 1925 the range between the high and low prices for 36 gravity crude was 79 cents a barrel and in 1923 and 1924 the range was $1 a barrel.

The curve of prices for 58-60 U. S. Motor gasoline in tank car lots at Group 3 (Oklahoma) refineries assumed normal proportions in 1926 for the first time in many years. The peak of prices corresponded with the season of greatest demand. In the early months the price curve was almost flat, showing a slight tendency to advance as spring approached. Prices reached their peak in the normal rush of spring buying and sagged towards the end of the year as motoring slackened.

Refuse to be Stampeded

IN 1926 refiners in the Mid-Continent field did not make the mistake of growing too optimistic during the late winter when crude began to advance. They refused to be stampeded into allowing the gasoline market to advance far enough to discourage buying. There was a slight upward trend to prices in February as usual but as a whole U. S. Motor gasoline brought only a third of a cent per gallon more in February than in March.



The extent to which Oklahoma-Kansas refiners have kept their gasoline stocks down in 1926, as compared with previous years, is graphically illustrated above. Figures based on U. S. Bureau of Mines report

It will be remembered that in the early months of 1923 advancing crude markets caused refiners to increase their price for U. S. Motor gasoline from an average of 10.59 cents a gallon in December 1922, to an average of 12.07 cents in January, 1923. Further crude advances caused February prices to jump another 2 cents to 13.94 cents a gallon and March prices averaged 14.12 cents. This was the high price for the year. High prices had stimulated production and curtailed buying so that refiners found themselves with their tanks full and no market ready to absorb their surplus which financial requirements made it necessary to sell. From March until the end of the year gasoline prices fell steadily, aided in late summer by demoralized crude markets.

Again in 1924

THE same conditions were apparent in 1924 but to a somewhat lesser degree. U. S. Motor gasoline brought an average of 11.36 cents a gallon in February and fell steadily from then until October, the average price for each month being less than that for the previous month.

In 1925 a bull movement in gasoline was begun in February again at the time of the usual early advances in crude. The average price of U. S. Motor gasoline in February was 12.5 cents a gallon, an advance of 4 cents a gallon over the January market. As usual the demand for gasoline at that season was not sufficient to support such a high market and prices fell during March and April. The price decline in 1925, however, was not so violent because refiners were operating more carefully.

Since refiners did not manufacture enough gasoline to create distress the normal increase in spring business brought prices above the anticipatory level reached in February. The market for June averaged 12.93 cents a gallon and for July 12.55 cents a gallon.

Reasons for Stable Market

ONE of the chief reasons why Mid-Continent gasoline markets were on a stable basis in 1926 may be found by a study of Table No. 1, given herewith, which shows the total stocks of gasoline at Oklahoma and Kansas refineries by months during the last five years. The table shows clearly why prices were driven to such low levels in previous years as well.

Oklahoma and Kansas refiners in 1926 have never held in storage as much as a month's supply of gasoline at the average rate of shipments for the first 10 months. On March 31, stocks at their highest level totaled 167,568,000 gallons while average shipments for the first 10 months, according to reports of the U. S. Bureau of Mines, were 175,080,000 gallons. Stocks were down to 110,376,000 gallons on Oct. 31, the lowest point for the year. At the peak this year stocks represented 29.10

days' supply at the average rate of shipment and on Oct. 31, only 19.16 days' supply.

Small Winter Increase

ONE of the most significant features of the record of gasoline stocks in Oklahoma and Kansas in 1926, is the fact that stocks increased only 20,000,000 gallons in February, the month of lowest consumption, and less than 1,000,000 gallons in March. In April stocks were reduced and the reduction was steady until the end of October.

In 1925 stocks of gasoline were increased 23,000,000 gallons in February and 35,000,000 gallons in March or 58,000,000 gallons in two months, compared with 21,000,000 for the same months of 1926. In 1924 the increase in February and March totaled 78,000,000 gallons and in 1923 the increase was 69,000,000 gallons.

The difference between peak stocks on March 31, 1926, and the minimum reached Oct. 31, was only 57,192,000 gallons as compared with a difference of 96,650,000 gallons in 1925, 129,916,000 gallons in 1924, 132,762,000 gallons in 1923 and 57,943,000 gallons in 1922.

At their minimum stocks represented 39.10 days' supply in 1923 on the basis of average monthly figures for shipments. Maximum stocks that year represented 77.03 days' supply. Each year since that refiners have watched their operations more closely and kept their inventories on a lower level. In 1923 average monthly shipments were only half as large as average monthly stocks, average monthly stocks being 205,268,000 gallons and average monthly shipments 106,464 gallons.

In 1924 average monthly shipments were still far below average stocks but in 1925 the condition was reversed. In that year average monthly shipments had jumped to 168,132,000 gallons while average monthly stocks were down to 139,424,000 gallons. The same tendency continued in the first 10 months of 1926 for which average shipments were 175,080,000 gallons and average monthly stocks 140,732,000 gallons.

Reflected in Market

THE gradual lessening of the fluctuation in gasoline stocks from year to year has been reflected in a gradual lessening in the variation between the highs and lows in the gasoline market. Table No. 2 gives average monthly prices of 58-60 U. S. Motor gasoline at Oklahoma refineries compiled from the records of National Petroleum News. The difference between the high and low prices of U. S. Motor gasoline in 1923 was 7.78 cents a gallon, a larger amount than gasoline was bringing in tank car lots in the late summer and fall months. In 1924 the difference between high and low was 4.39 cents a gallon; in 1925 4.42 cents, and in 1926 only 2.55 cents a gallon. These figures are all based on monthly averages which basing has a tendency to minimize rather than magnify the market fluctuations.

It may be expected that Mid-Continent refiners will watch their operations even more closely during 1927 than they did in 1926. The tendency has been apparent in the last week or so in several notable cases.

Operating Theories

THE old theory of refiners has been that there is some price at which as much gasoline as the refiner can make will move freely. If the gasoline does not move the answer is that the price is too high under this system of thought.

Refiners are coming to the belief that price is only a part of the story. They are seeing that weather and the attitude of jobbers are important factors. Some refiners are watching sales with the utmost care to ascertain whether the thing to do is to reduce production rather than to reduce price a good part of the time.

In the last few weeks refiners who have carefully studied the market have seen that during October and November the continuous reduction in prices has stimulated buying temporarily but that consumption has not been affected. Now results of the price cutting of earlier months are that jobbers have good supplies of gasoline on hand and the only way to avoid a demoralized winter market is to reduce production to the level of demand. Several refiners have reduced runs materially during the last two weeks.

If the doctrine of manufacturing to meet current requirements only gains adherents among refiners as rapidly in 1927 as it has gained in the last two years it will not be surprising to see the difference between maximum and minimum prices of gasoline grow much narrower than at present. The market is likely to grow more and more stabilized at a proper economic level as refinery stocks are kept at a level figure representing minimum working stocks plus only a margin for safety to assure deliveries to customers in case of accident.

Table 1.–Stocks of Gasoline at Oklahoma and Kansas Refineries at End of Each Month

(Amounts in Thousands of Gallons)

	1922	1923	1924	1925	1926
Jan.	102,565	171,894	148,920	135,706	146,778
Feb.	112,791	209,090	187,061	158,609	166,777
March	129,451	241,367	227,100	193,124	167,568
April	139,477	258,442	236,001	184,244	165,192
May	126,788	269,619	231,786	173,553	155,238
June	130,558	261,850	215,917	157,879	145,208
July	124,640	242,172	174,962	134,044	122,954
Aug.	113,099	201,983	143,746	121,219	115,626
Sept.	117,771	176,813	133,567	102,302	113,610
Oct.	128,493	155,156	107,338	96,474	110,376
Nov.	146,485	136,857	106,085	97,389	... ...
Dec.	160,508	138,200	121,042	118,546	... ...
Monthly Average Stocks	127,718	205,268	169,460	139,424	140,732
Monthly Average Shipments	90,965	106,464	128,084	168,132	175,080
Days' Supply in Stock at Maximum	53.68	77.03	56.04	34.94	29.10
Days' Supply in Stock at Minimum	34.30	39.10	25.19	17.45	19.16
Difference between high and low stocks	57,943	132,762	129,916	96,650	57,192

Table 2.—Monthly Average Price 58-60 U. S. Motor Gasoline F. O. B. Group 3 in Cents a Gallon

	1922	1923	1924	1925	1926
Jan.	13.02	12.07	11.00	8.50	9.86
Feb.	13.75	13.94	11.36	12.50	10.44
March	14.12	14.12	10.78	11.33	10.05
April	15.40	12.80	10.78	10.19	10.25
May	17.65	11.56	10.00	11.25	11.75
June	18.88	11.88	9.10	12.93	11.55
July	17.63	9.70	8.50	12.55	11.14
Aug.	14.57	8.06	7.72	10.50	11.14
Sept.	14.31	6.66	7.42	9.38	10.78
Oct.	12.50	6.62	6.97	8.89	9.95
Nov.	11.16	6.34	7.83	9.70	9.20
Dec.	10.59	7.43	8.42	10.03	9.34
Yearly average	14.47	10.10	9.16	10.64	10.45
Difference between high and low for year	8.29	7.78	4.39	4.42	2.55

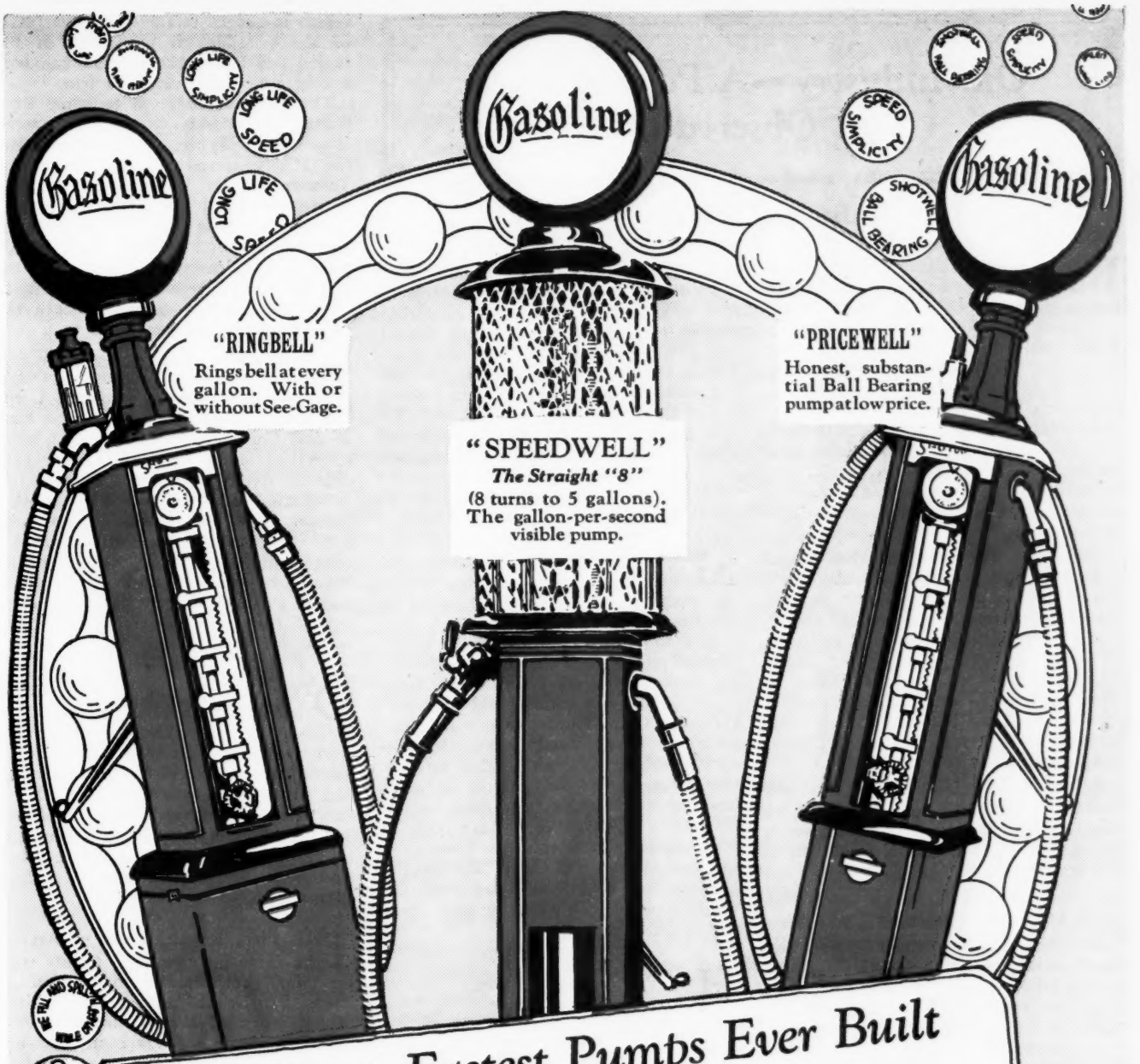
AUTO DEALER BECOMES OIL MARKETER

WESTPHALIA, MICH.—Westphalia Oil Co. has recently been incorporated here and is operating a new and modern filling station. It consists of sales room, rest rooms, two office rooms, basement, and is equipped with steam heat and water system.

A tank truck has been added to delivery equipment. The company also operates the Westphalia Auto Co., handling Chrysler and Chevrolet cars and trucks. It handles accessories and conducts general repairing work, according to John B., president.

Indian Refining Co.'s gasoline and motor oil, and Mobiloil and grease are being handled.

NEW LEXINGTON, O.—Pure Oil Co. has installed an 80-h.p. Bessemer gas compressor in the Morgan county division. The company is drilling in Morgan county in the Berea sand around the depth of 1300 feet. It is said to have drilled 106 wells in this pool without a single dry hole.



The Finest, Fastest Pumps Ever Built

—with Many New Inventions for Precision

SHOTWELL Ball Bearing PUMPS give ASTOUNDING ECONOMY in first cost, upkeep and operator's time. Their exceptional advantages make them the logical choice for your complete gasoline pump requirements. Order one today—give it every conceivable test—we will leave the decision to your own good judgment.

This Table of Actual Comparisons Proves the Outstanding Superiority of SHOTWELL BALL BEARING PUMPS.

(for 5 Gallon)	SHOTWELL	Other Pumps
(1) Maximum Speed	5 to 7 seconds	10 to 20 seconds
(2) Handle turns	8 easy turns (no back turns)	20 to 30 turns or strokes
(3) Rotary travel or Piston travel	2 feet	10 feet
(4) Suck leathers bend	twice	40 to 50 times
(5) Bearings	Ball-Bearing	Cast Iron
(6) Essential moving parts	3	3 to 30

This table refers to SHOTWELL "SPEEDWELL" Pumps, but our other pumps have practically the same advantages.

The Achievement of 20 Years of Shotwell Development! No greater Dollar-for-Dollar Pump Values Ever Existed!

SHOTWELL PUMP AND TANK COMPANY

INDIANAPOLIS

District Offices in Principal Cities

BOSTON

Shotwell BALL BEARING Pumps

Our Industry—A Page of Facts and Observations

National Petroleum News

By Paul Wagner

EDGAR B. DAVIS, whose energy and faith led to development of the Luling field in Caldwell and Guadalupe counties, now pays his poll tax in Texas instead of Massachusetts. He is making his home at Luling, where as a public spirited citizen Mr. Davis has given more than $1,500,000 in endowments and other gifts. Besides this, the development of the Luling field by the United North & South Oil Co., in which Mr. Davis was the largest stockholder, was a boon for the Caldwell county seat.

Developed properties of the United North & South were sold by Mr. Davis and his associates last June to the Magnolia Petroleum Co. for $12,100,000, a part of which amount is to come from oil produced. The United North & South, however, retained rights to oil which may be found at depths below 3,000 feet and has been continuing wildcatting operations in the south central Texas region.

Before getting into the oil business Mr. Davis was a shoe manufacturer at Brockton, Mass., and at one time was a vice-president of the United States Rubber Co.

* * *

CHARLES E. McNIGHT, American drilling superintendent for the Mexican Eagle Oil Co., Ltd., (El Aguila) in the Isthmus of Tehauntepec territory, has resigned for the purpose of going to Venezuela. Mr. McNight has been in charge of field operations on the Filasola and Concepcion salt domes, up the Coatzacoalcas river from Puerto, Mexico.

* * *

ACCESSIONS continue to the group of former Bureau of Mines men now connected with technical activities in the producing division of the Pure Oil Co. The latest to join the group is Pete Haury, formerly petroleum engineer in the bureau's Dallas office and more recently in consulting work at Taft, Calif. Mr. Haury is in charge of the Pure Oil engineering work in Oklahoma-Kansas territory, with Tulsa headquarters. He succeeds W. W. Scott, who for a time had charge of the bureau office at Dallas and who went to the Pure Oil organization only a few weeks after appointment as head of the Bartlesville Experiment station. Scott now is stationed at Mexia, where another bureau product, R. B. Kelly, is also located.

The petroleum engineering department of Pure Oil is headed by H. C. O. Clarke, formerly the bureau's salt water specialist at Dallas. Working with him in eastern territory are Harry W. Bell, who resigned from the Dallas bureau to become supervisor of the oil and gas division of the Louisiana State Conservation Commission at Shreveport, and E. P. Campbell, who headed the bureau's Bartlesville station for only a short time before joining the Pure Oil organization. Mr. Campbell for a long time was stationed at Bakersfield, Calif., before his transfer to Bartlesville.

* * *

MIDLAND, Texas, in the county of the same name, is becoming an important operating base for parts of the Permian salt basin area which continues to gain in wildcatting activity. Several months ago the Gulf Production Co. moved its West Texas zone offices to Midland, from which point it is carrying on Crane-Upton county developments, centering mainly in the McElroy ranch pool. Now Prairie Oil & Gas Co. has arranged for field offices at Midland, incident to its operations in the University (Church & Fields) pool, in northeastern Crane county. Simms Oil Co., and Weekly Oil Corp. have district headquarters at Midland and Pure Oil Co. is credited with plans for soon opening an office there.

* * *

H. D. EASTON, Shreveport geologist, whose work in Mississippi preceded the discovery of gas in the Amory Petroleum Co.'s test, in 7-31S-17W, Monroe county, considers that a large area has been opened for wildcatting by the showing found in the No. 1 Carter well. A government report is quoted to the effect that most of the possible oil pay zone of the region lies below the present gas producing zone found at 2,470 feet.

The gas is considered to come from Carboniferous rocks, hence, Mr. Easton is quoted as saying, all formations from the Mississippian to and including the Trenton remain untested in an area where structural conditions are largely proven favorable by the presence of gas. Conditions mentioned have caused considerable leasing activity over the Mississippi region where Palezoic beds are not too deeply buried beneath the soft Tuscaloosa formation.

* * *

IRVING STEWART, chief geologist of the California Petroleum Corp., Los Angeles, recently spent some time in Mid-Continent territory going over properties under consideration for purchase. After investigating properties in Butler and Greenwood counties, Kansas, Mr. Stewart was due to make a trip into the Texas Panhandle. Arrangements are being made for the opening of an office at Wichita, Kans., and if Panhandle properites are taken over district headquarters will be maintained also at Amarillo.

* * *

OFFICIALS of the Roxana Petroleum Corp., headed by F. Godber, president, with St. Louis headquarters, were recent visitors to the Texas producing territory west of San Angelo. Mr. Godber was accompanied by Vice-President Van Dorsser, in charge of production; Angus McLeod, chief geologist for the central division, and F. E. Allen, central division superintendent of field operations.

* * *

THE Firm Royalties Co. of Artesia has filed incorporation papers with the state corporation commission at Santa Fe, N. M., showing authorized capital stock of $10,000, including 7000 shares issued and 3000 remaining unissued in the treasury. Incorporators are F. A. Anderson, E. A. Meserve, Shirley E. Meserve, Hewlings Mumper, C. E. Hughes and Baldwin Robertson.

Marland Oil Co. officials—W. H. McFadden, senior vice president, at the left. To the right are Walter Miller, manager of the manufacturing department; George G. Shallenberger, in charge of natural gasoline plants, and F. J. McNellie, general superintendent of the producing department of the Marland Oil Co. of Texas. All except Mr. McNellie, who lives at Fort Worth, make their headquarters at Ponca City, Okla.

Visiting Around the Refineries

By Paul Truesdell

National Petroleum News

More Improvements in Refinery Equipment

CHARLES WALCOTT STRATFORD of the Tide Water-Associated Oil Co. has just been granted a patent on a circulating system for a shell still that looks like another example of the stimulation offered to the improvement of old style equipment by the invention of new devices. This tendency was spoken of last week on this page in connection with improvements in earth-burning apparatus that may put a new face on percolating filtering.

Mr. Stratford's invention may have been stimulated to some extent at least, by the high stage of development of the pipe still. Little is known about the Stratford invention. It was mentioned for the first time so far as I know by Ernest H. Peabody of the Peabody Engineering Corp., when, in a paper before the Institute meeting in Tulsa, on refinery oil burners, he mentioned work that was going on at Avon, Cal., plant of the Associated. This is where Mr. Stratford developed his invention.

While very little has leaked out about this invention it is understood that the device gives the shell still in which it is installed considerably greater efficiency than a pipe still.

In the same week that Mr. Stratford was granted his patent, a patent issued to Leon A. Tarbox of Oil City, Pa., on a process of revivifying fuller's earth. This patent was assigned to the Emlenton Refining Co., Emlenton, Pa. Ideas on the rejuvenation of spent fuller's earth are changing rapidly, it seems.

Reducing the Fire Hazard in Aviation

THE newspapers carry accounts of a new "non-inflammable gasoline" which it is said has been developed by a French scientist, Raoul Ferrier, particularly for use in airplanes. At first glance it would appear that a non-inflammable gasoline would be a ridiculous paradox.

However, it is explained that the problem of vaporization of the fuel, which of course was the most serious question, has been solved. After all, if an atomizing or vaporizing device has been worked out for the automobile engine similar to those used in domestic oil burners, it seems that it might be possible to operate an automotive engine on a fuel that would not vaporize enough at ordinary temperatures to be inflammable.

It seems possible that such fuel might be developed to be to the airplane, in some measure at least, what helium is to the lighter than air ship. Experience teaches, however, that newspaper reports of such things are likely to be exaggerated.

New Refinery for State of Washington

INTERESTS of the Pure Oil Co. in Washington were taken over Jan. 1 by the Inland Empire Refining Co., according to announcement made by H. H. Schwartz, Jr., president of the latter company. The company has just started up a refinery in Spokane. The plant, which has a capacity of 1000 barrels a day, will handle distillates, running them into gasoline, kerosene and domestic heating oil.

The company will be distributors of Pure Oil lubricants in the state.

W. A. Pankonin, formerly district manager at Spokane for the Pure Oil Co., has been made secretary-treasurer and general manager of the Inland Empire company. Mr. Schwartz lives in Lewistown, Mont., and is president of the Arro Oil & Refining Co. of Lewistown and managing director of the Maple Leaf Oil & Refining Co., Ltd. of Coutts, Alberta, Canada.

The vice president of the Inland Empire company is E. L. Cardle of Spokane. C. Homer, formerly with the Pure Oil Co. and H. B. Rodney formerly with the Wesco Oil Co. will be city salesmen.

Electric Power Generation in Refineries

K. J. SMITH, superintendent of the Skelly Oil Co. refinery at Eldorado, Kan., is one operating executive who is giving much study to the question of installation of a turbo-generator set or a generator driven by oil engines, for the production of electric current for the needs of the refinery.

Mr. Smith, who was a witness in the trial of the infringement suit brought against his company by the Universal Oil Products Co., stated that his conviction is that the economy of such an installation rests on a nice balance, which is affected by several factors. For instance, where the boiler feed water is bad, he says it is a costly proposition to operate a turbo-generator set. An oil engine driven set for a big refinery also represents a considerable investment.

The quantity of current needed and the price at which juice will be furnished by the central power stations are the chief deciding factors as to whether it is economical for a refinery to produce its own electricity or not. And the power companies, in districts where they are equipped to serve the refineries, are constantly endeavoring, through their rates and service, to make the proposition of generating their own electricity less attractive to the refiners.

Building Heavier Cracking Equipment

WE get frequent inquiries as to whether the tendency is toward the use of higher pressures in the cracking of oil. If there is such a tendency, we believe it is very gradual and hardly to be noticed right now. All the processes that we know about are still operating at about the same pressures they were using two or three years ago.

There is, however, a marked tendency toward increasing the safety of cracking operations by the use of heavier equipment. Heavier plate, riveted and welded construction, even solid steel forgings are demanded now generally when new cracking plants are installed. Heavy duty pipe and valves and fittings of extra strength are standard equipment now on cracking installations.

It is understood that there is at least one plate shop in the country that is now equipped to roll three-inch steel plate. Up to a comparatively short time ago, two and a half inch was the heaviest plate that could be handled and only two shops in the country could handle that.

Correcting a Mistake

ON page 78 in the Dec. 29 issue was printed a note to the effect that the Louisiana Oil Refining Corp., Shreveport, had contracted with the Graver Corp. for two units of the Jenkins cracking process. The Graver Corp. informs us that this is a mistake. The Corco Refining Co., a subsidiary of the Crystal Oil Refining Co., of Shreveport has bought two Jenkins units.

4
Ounces
Speak for 40 Cars

SWIFT as the mail can take them and directly into the hands of the buyer, sample oil bottles carry your story. Right at the buyer's desk a 4 ounce bottle speaks for forty cars or for a whole refinery.

Whether they go by mail or with a salesman, you want your samples to make the best impression possible. They must arrive in good condition, tightly corked and dressed to please.

Sample oil bottles made by the Illinois Glass Company fill these requirements perfectly. Their sturdy construction withstands hard knocks. Special, long tapered corks made in our own plant assure leakproof service. Clear flint glass, handsome squared shoulders and ground or polished bottoms permit perfect inspection of contents, and express that feeling of extra quality that often influences sales.

Made in 2-4-8 ounce sizes, plain or with your name blown in the glass.

Illinois Glass Co.
Alton Ill.
ESTABLISHED 1873

New Stations Built or Being Built

CUSHING, OKLA.—A new service station has been completed here by F. W. Clark. Skelly products will be handled.

C. H. Cooke has bought the Pierce Oil Corp.'s station here and will remodel it for handling Skelly products.

* * *

ACADIA WIS.—Perfect Oil Co. is building service stations at Fountain City, Whitehall and Blair, Wis., according to M. J. Kamla who sold his oil marketing properties to this company during the summer.

* * *

MONROE, MICH.—H. & C. Denninger have opened a service station at Dreamland Gardens, four miles south of Monroe. The station is handling products of the Standard Oil Co. of Indiana.

* * *

SORRENTO, ILL.—A modern and all-steel filling station has just been completed by the Home Oil Co. here. Seth L. Young, local manager, reports doing a good business in Purol products.

* * *

TARENTUM, PA.—A service station has been completed here by H. P. Bittenger, handling Waverly oils and greases. Billboard space is for sale at the back of the station.

* * *

PALESTINE, TEX.—F. M. Smith, agent for the Pierce Petroleum Corp., St. Louis, has opened a service station here, which will be operated by Goldman & Fry.

* * *

HENDERSON, MINN.—A bulk and service station will be opened here soon by E. L. Osten under the name of the Osten Oil Co. Shell products will be handled.

* * *

URBANA, O.—E. C. Barnhart has opened a bulk and service station at Quincy, O. Business is conducted under the name of the Barnhart Oil Co.

* * *

LAKELAND, FLA.—A four-pump service station, handling Sunoco products, has been opened here by J. Z. Reynolds.

* * *

LORDSBURG, N. MEX.—Magnolia Petroleum Co. has installed additional storage space for kerosene here.

* * *

NEW YORK.—State Gasoline Service Stations, Inc. has opened up three service stations in the Bronx.

* * *

CAMP POINT, ILL.—John Ridder is building filling station and tourist park.

* * *

PLUMERVILLE, ARK.—A. R. Burrows has installed a service station here.

Waverly Co. Buys Two Jobbing Concerns

PITTSBURGH, Jan. 13.—Expansion of the Waverly Oil Works Co. through purchase of two oil companies outside Pittsburgh, is announced by T. J. Hilliard, president.

One company purchased was the Power Gasoline Co., with headquarters in Scottdale and stations at Connellsville, Youngwood and Everson. Dick Keslar, president of the Power company, is retiring and Lester B. Smith, assistant sales manager of the Waverly, is assuming management of the properties. He is moving his family from Pittsburgh to Scottdale.

The Waverly company has also bought the Lincoln Oil Co., Greensburg, Pa., which operates a bulk station and two service stations. Thomas E. Edwards, manager of the Lincoln company, has resigned.

Asks House Action on Bill on Indian Leases

WASHINGTON, Jan. 13.—Early consideration by the house of the measure urged by Secretary of the Interior Work giving his department greater control over the leasing of Indian oil lands is asked by Secretary Work in a letter to Scott Leavitt, chairman of the House committee on Indian affairs.

The proposed bill, already passed by the Senate, gives the Secretary of the Interior discretion to reduce the area of lands to be offered annually for leasing, or to suspend the offer of leases, for not exceeding two years, when an overproduction of crude, or inadequate prices, make such suspension desirable in the interest of the Osage nation.

E. F. BLACK DIES IN TULSA

TULSA, Jan. 13.—Edward F. Black, vice-president of Black, Sivalls & Bryson, tank manufacturers, died of pneumonia here today after a month's illness. He was 51 years old. He came to Bartlesville in 1906 from Pennsylvania and with his brother, A. H. Black, began to manufacture wooden lease tankage. Later the firm made steel tankage and was among the pioneers in making gas tight lease tanks. Mr. Black is survived by his widow and one daughter. The funeral was to be held Jan. 12.

MISS BARNSDALL DONATES PARK

LOS ANGELES, CAL., Jan. 13.—Miss Aline Barnsdall, daughter of the late Theodore Barnsdall, well known oil man, has presented to the city of Los Angeles eight acres on Olive Hill in Hollywood, to be used for park and playground purposes. The Barnsdall mansion on the property is to be used as a club house by the California Art Club. The park will be known as Barnsdall Park.

ALERTNESS PAYS!

THE hunter who doesn't believe in preparedness won't get much game. The birds won't wait while he digs out shells and loads his gun. He must be instantly ready.

Selling motor oil is something like that. Motorists won't wait for slow service. The oil must be instantly ready.

Rhodes Speed-Up Oil Dispensers help you give the fast service that motorists like. These containers are prefilled in spare moments, so when a customer wants oil there is no delay. Replenishing a crankcase takes but a few seconds.

Serve Alcohol

In Rhodes Dispensers. They are sealed against evaporation, and their premeasured readiness pleases motorists and sells more alcohol.

Display your oil in Rhodes Speed-Up Bottles. Their clear visibility and suggestive alertness will help you sell more oil.

JAY B·RHODES Co.
KALAMAZOO, MICHIGAN.

Chemists and Engineers

The revised tenth edition of OIL ANALYSIS by A. H. Gill, is ready for you. It has added a section on the examination of motor gasoline and a description of the latest model Mac-Michael Absolute Viscosimeter, and has been brought thoroughly down to date.

The price is still $2.50. Send us your check and let us mail a copy of it to you:

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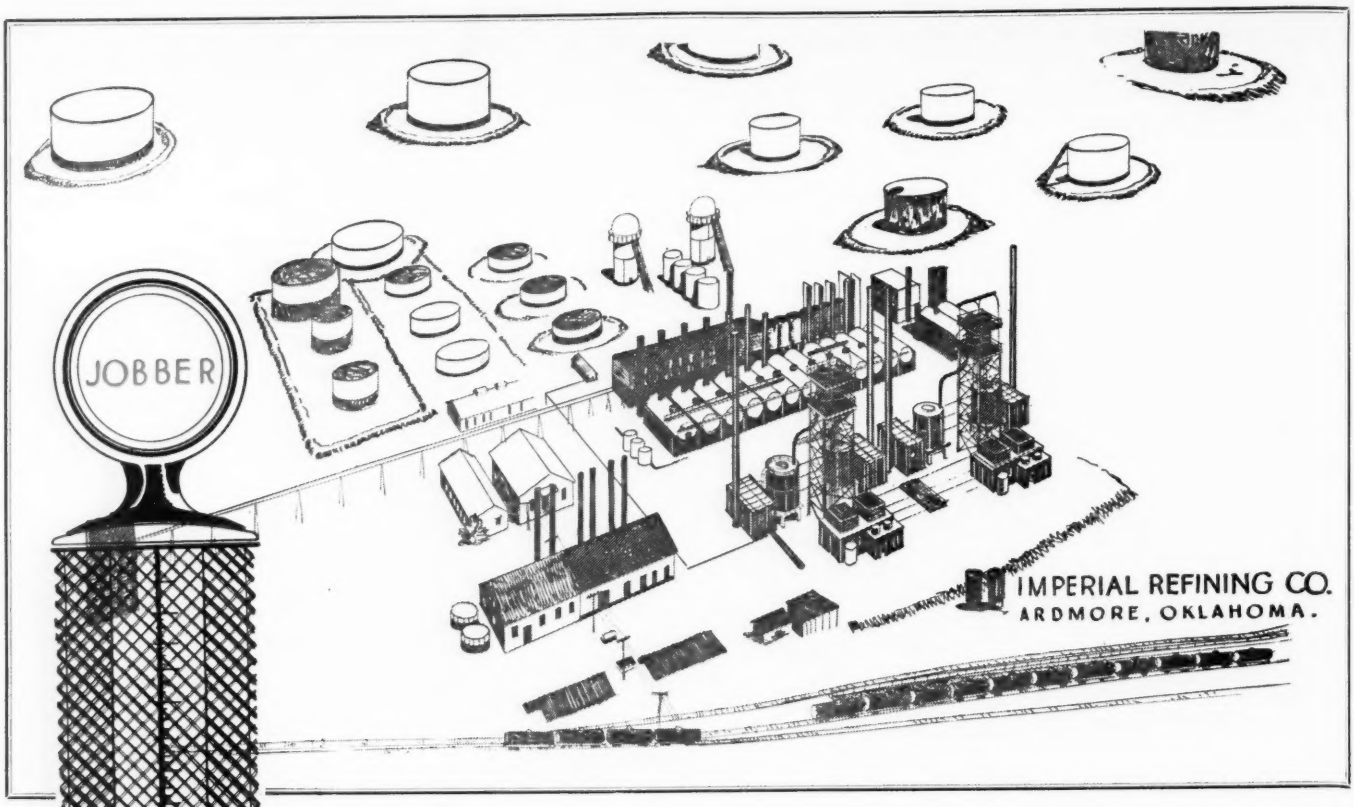
808 Caxton Building Cleveland, Ohio



THE PLANT BEHIND YOUR PUMP

Two modern refineries of the latest type—running crude famed for its anti-knock gasoline qualities—maintained at definite specifications. This means a product of the highest quality—a product you can put your name and reputation behind—and a definite source of supply that you can depend upon.

And it is an independent source of supply since we are refiners and distributors in tank cars exclusively—rendering to the jobber a service and a dependable supply of guaranteed grades.

Write or wire us regarding our lines. Let us tell you something of our products, our prices and the service we are prepared to render.

A high grade line of furnace oils, low flash, good color, also distillates and gas oils are now ready for the winter trade.

IMPERIAL REFINING CO.
ARDMORE, OKLA.

KETTLE CREEK REFINING CO.
ELDORADO, ARKANSAS

All sales handled through our own sales division

IMPERIAL OIL MARKETING CO.

ATLAS LIFE BUILDING
TULSA, OKLAHOMA

New Publications

The Oxweld Acetylene Co. has just brought out the ninth edition of "The Oxwelder's Manual." The book, which ran through eight editions and was highly regarded as a textbook on cutting and welding by the oxy-acetylene process, has been completely rewritten from the ground up, according to the statement of the company. It gives much valuable information on cutting and welding, illustrated with photographs and shows cuts of the company's equipment, including acetylene generator apparatus.

Directions for welding cast iron as well as steel are given, together with the information as to sizes of equipment to be used for cutting different thicknesses of metal. Copies of the manual may be obtained by addressing the Oxweld Acetylene Co., at Long Island City, N. Y., Chicago or San Francisco.

* * *

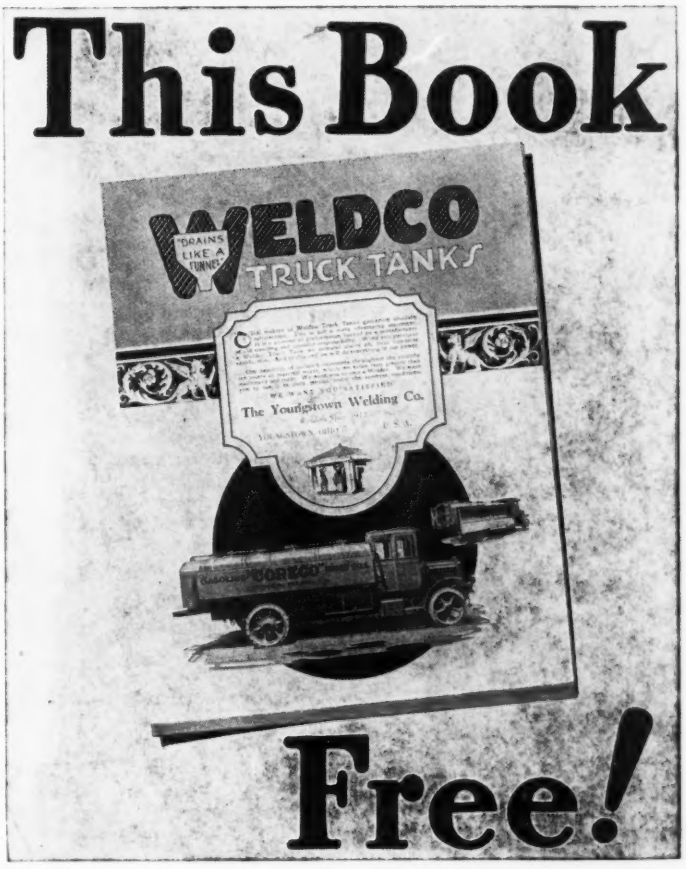
THE December issue of "The Compass," the magazine of the Vacuum Oil Co. devoted to the interests of the marine sales department, contains on page 10 part one of "Diesel and Oil Engine Lubrication." The second part will appear in the January issue of "The Compass." This treatise on the lubrication of the oil engine is the work of the Vacuum Oil Co.'s technical department and covers the subject very completely. It was written, it is stated, to answer the questions that frequently arise in connection with the lubrication of the heavy duty internal combustion engine.

Sales Manager for Axelson

LOS ANGELES, Jan. 13.—Clyde Ellwood who has been connected with Axleson Machine Co. for five years, effective Jan. 1, was appointed general sales manager, with headquarters at Los Angeles.

Mr. Ellwood first was associated with the company as factory representative in the Mid-Continent, later as division manager in the Rocky Mountain territory, after which he was placed in charge of the Pittsburgh division. Due to his knowledge of the petroleum industry in relation to pumping equipment, he was delegated to make a trip around the world by Axelson to study all foreign oil fields, and just recently he visited all South American oil fields.

NILES, MICH.—Filling station bandits are reported "doing their stuff" around the stations in this territory and in South Bend, Ind. Over a dozen robberies were staged during the past few weeks, Claude J. Huff, oil marketer of Niles, states. Three of the bandits have been captured and one killed.



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Welders since 1912
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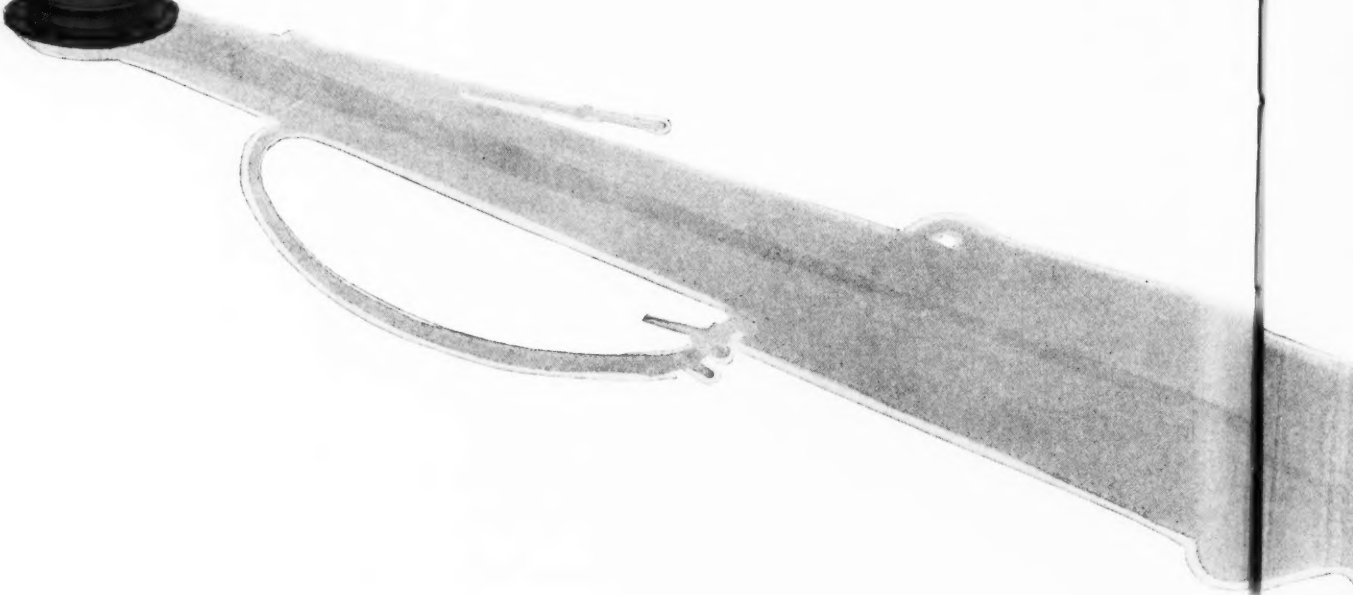
National Petroleum News
834 Caxton Building Cleveland, Ohio

Built to make good

THE best is none too good for the filling station catering to the needs of hundreds of motorists daily. A pump must be accurate, fast, safe in delivery and rugged to stand the strain of continuous service. The Gilbert & Barker T-177 visible pump meets all these requirements. It is also exceptionally attractive in appearance. Made in five and ten gallon sizes; hand and air operated; has the advantage of visibility with mechanical measure, or wet hose sight measure delivery; carries the Underwriters label. A splendid pump investment for the business-getting Oil Marketer.



•PUMPS THAT HELP YOU SELL•

~and they do

Examine the Gilbert & Barker gasoline pump from top to bottom, and everywhere you will find modern approved engineering design, superior construction, pleasing proportion and attractive appearance.

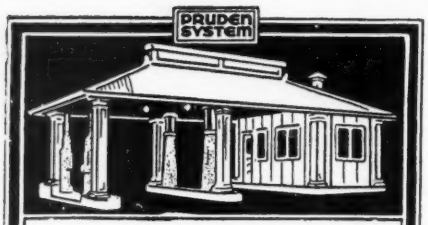
Nothing has been overlooked. No detail, however small, has been omitted that in any way could contribute to greater pump efficiency and better service. G. & B. pumps are built to make good. And they do.*

Write for Bulletin T-177 on visibles, or Bulletin T-66 on piston types.

GILBERT AND BARKER
MANUFACTURING COMPANY
PUMPS AND TANKS FOR THE OIL TRADE
SPRINGFIELD MASS. U.S.A.

*Over 1200 oil marketers are using G. & B. equipment.

·PUMPS THAT HELP YOU SELL·



Beautiful
Steel Buildings

YOU can't realize what attractiveness of design is possible in steel until you have our circular illustrating PRUDEN SYSTEM copper-alloy galvanized steel buildings. *Send for it.*

Pruden System buildings, by their beauty of appearance, invite patronage.
They are the most practical type of service station buildings, in every respect.

They are strong and lasting, with the slightest of depreciation through years of service. They are absolutely fireproof, being made *entirely* of steel. They are quickly erected, and portable. They can be perfectly insulated against heat and cold. And they are low in price.

The METAL SHELTER Co
WABASHA & WATER STS.
SAINT PAUL, MINN

The Hotel Baltimore in Kansas City

500 ROOMS—*RATES*
Room *without Bath*—$2.00 *and up*
Room *with Bath*—$2.50 *and up*
Double Room *with Bath*—
$4.00 *and up*

Marble Coffee Shop
TABLE D'HOTE
Lunch 75c
Dinner . . . . . 85c & $1.25
also A la Carte Service

New Equipment to Improve Plants

Personal Notes of the Manufacturers

National Petroleum News

W. B. Meyers, formerly associated with the William Powell Co. of Cincinnati, O., has become affiliated with the Brooks Engineering Corp. of Los Angeles.

Mr. Meyers was with the Lunkenheimer Co., Cincinnati for 18 years prior to his connection with the Powell company and acquired a broad and comprehensive piping and valve experience in both the Eastern and Mid-Continent fields before coming to California three years ago.

The Brooks Engineering Corp. is the manufacturer of Beco tank equipment and the Beco system for vapor recovery, as well as being Pacific Coast distributors for the Farr Hydraulic System of handling gasoline. Enlarged quarters have been taken at 1325 Maple Avenue in Los Angeles.

* * *

The Southwest General Electric Supply Co., formerly Southwest General Electric Co., announces that it will open a new warehouse and sales office at 802 South Grant St., Amarillo, Tex., Jan. 15. Derrick lighting equipment will be a feature of the stocks to be carried at Amarillo along with a complete line of electrical merchandise and supplies. T. O. Steffens, who pioneered the Panhandle territory will be sales agent at the Amarillo office, G. B. Valkus, Amarillo manager, J. G. Parker, city salesman, P. K. Matthews, office sales and H. A. Hitt, service manager. Tne headquarters of the company is at Dallas and other offices are at Houston, Oklahoma City and Tulsa.

* * *

The Air Reduction Co., Inc., New York, announces that on Nov. 1 it acquired through long term lease from the Commercial Acetylene Supply Co., Inc. the plants and business of that company on the Pacific coast. Two acetylene manufacturing plants are taken over, one at Berkeley and one at Los Angeles. The company states that acquisition of these plants will enable it to give complete service in that territory. The company now has 54 plants and 177 warehouses throughout the country.

* * *

General Electric Co., Schenectady, N. Y. has put out bulletin GEA-569 describing its constant-potential arc welding set for a number of welders. The bulletin carries photographs of a 400-ampere set together with its hookups.

* * *

Andrews-Bradshaw Co., Pittsburgh announces that it will have on display at the Chicago Power Show a section of a boiler drum with the Tracyfier installed. The drum will have plate glass ends so that its action can be studied. The Tracyfier is a device to prevent the carrying over of entrained water with the steam from a foaming boiler.

* * *

Hoyt Metal Co., Boatmen's Bank Bldg., St. Louis, Mo. has released its latest booklet, "Babbitt Metal Data" which contains much information for users of babbitt metal. The data, which have been secured from well-known engineers and chemists, include information on the selection, considerations in design and preparations for casting the babbitt. A table which gives complete specifications of the various kinds of babbitt metal is also included. The metal which it calls its oil engine babbitt is especially alloyed to withstand extreme pressure caused by impact in the largest Diesel engines, according to the booklet.

* * *

C. J. Tagliabue Manufacturing Co., Brooklyn, N. Y., has put out its catalog No. 905 C describing its line of recorders. The catalog covers Tag mercury, vapor tension and gas filled recording thermometers, dial indicating thermometers, recording hygrometers and psychometers, time operation recorders, vacuum and pressure recorders and recording contollers.

* * *

G. H. Dillon, formerly in charge of sales of paraffin plant equipment for the Bethlehem Shipbuilding Co., and in 1920 that company's oil industry representative at Tulsa, is now in the sales department of the Walter E. Lummus Co., at Boston. Mr. Dillon will handle the sale of the Lummus low temperature refining system.

* * *

The A. O. Smith Corp., Milwaukee, has put out Publication 114 describing Smithsteel couplings. Accurate threading is one of the advantages claimed for the product, the booklet stating that all Smithsteel couplings (A.P.I. and others) are of the same uniform accuracy within the limits specified by the American Petroleum Institute. The booklet also contains tables of weights, dimensions, number of threads and so on for the company's California pattern casing couplings and A.P.I. casing couplings, drill pipe couplings, external upset tubing couplings and plain tubing couplings.

* * *

General Electric Co., Schenectady, N. Y. has put out bulletin GEA-578 describing its steam turbines. These turbines, the bulletin says, are particularly adapted to the operation of centrifugal pumps. Illustrations show various types of turbines which comprise the G. E. line and construction details are shown.

"SUPER"-"PRESSURE" team-mates

You are doubtless a sportsman at heart.... most of us are. You like fair-play—co-operation—team-work.

Here are a couple of team-mates that cannot help but win your admiration....Marland Super Motor Oils and Marland Pressure Gasoline. The perfectly co-ordinated fuels. Used together, they bring results that the public is quickly recognizing.

Trade-marked and advertised to the consumer....*first*, as a pledge to you and to the "man behind the wheel" that they'll always be of uniform excellence....and *second*, that YOU—dealers and jobbers—may personally cash in on this consumer acceptance which is rapidly crystallizing into consumer demand.

That's "team-mating" between refiner and dealer or jobber. We want to pull with you....when you make money, we make money. Marland is marketing a "team" of products that the public has found good—we know you'll be proud to identify yourself with this badge of excellence....the Marland Red Triangle.

Write today details and specifications—this proposition is valuable.

MARLAND REFINING COMPANY
PONCA CITY, OKLAHOMA

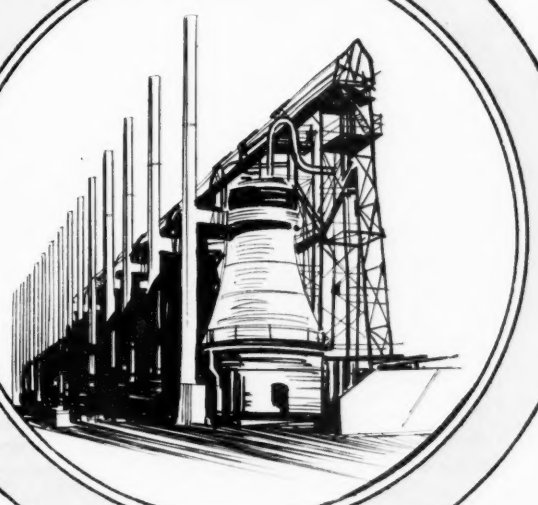
Division Sales Offices

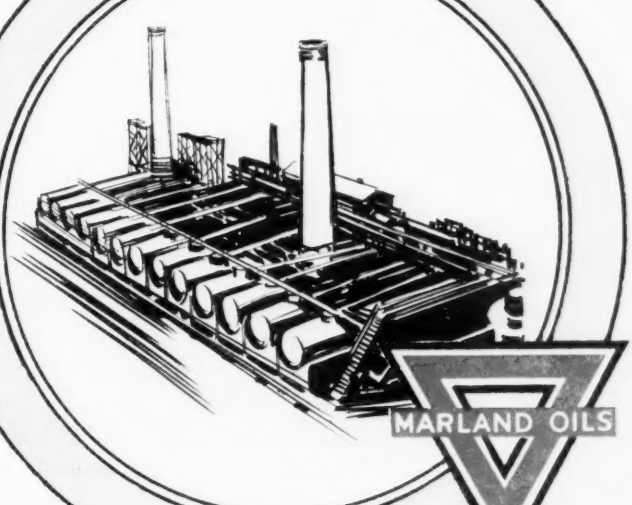
208 LaSalle St., Chicago
3039 Walnut St., Denver
St. Paul—Minneapolis
11 Broadway, New York
Hammond, Indiana
Prior and University Ave., Minnesota Transfer, Minn.
321 Finance Bldg., Kansas City
Texas City, Texas

Cable—"MARLANOIL" New York

MARLAND Pressure GASOLINE
REGISTERED U.S. PATENT OFFICE

MARLAND Super MOTOR OIL





MARLAND TEAM-MATES

10-27

"Specify Buckeye"

INVESTIGATE!
Buckeye Truck Tanks

OTHER BUCKEYE PRODUCTS

Buckeye Oil Burner Storage Tanks

Buckeye Lubricating Tanks

Buckeye Air Receivers

Buckeye Underground Storage Tanks

Buckeye Graduate Tanks

A CLOSE study of Buckeye construction will disclose features that cannot be discounted—indisputable evidence of quality—sound reasons why extra years of service are usually recorded.

Investigate Buckeye and you will find those extra years of endurance and service built right in—clearly a net gain for the owner since "strictly in line" prices prevail.

State your requirements and get the Buckeye quotation. Illustrated literature ready to mail.

THE BUCKEYE BOILER CO.
1616 McLain Street **Dayton, Ohio**

"Specify Buckeye"

Help Your Salesmen

to acquire a working technical knowledge of the selection, application and use of lubricants, by ordering for each one a copy of the PRACTICE OF LUBRICATION, by T. C. Thomsen.

It discusses the origin, nature and testing of lubricants and every phase of lubrication engineering.

It is $6 a copy. Make your check payable to—

NATIONAL PETROLEUM NEWS
825 Caxton Building Cleveland, Ohio

New Oil Patents Issued Recently

Production

Pump Jack.—Clyde O. Sams, De Noya, Okla. Filed Dec. 3, 1925. No. 1,612,886.

Method and Apparatus for Drilling Wells.—Eggleston Smith, Sioux City, Iowa, assignor to Eggleston Spiral Drill Corp., New York, N. Y. Filed May 9, 1923. No. 1,612,889.

Rotary for Earth Boring.—Edgar E. Greve, Bellevue, Pa. Filed June 1, 1923. No. 1,612,974.

Swab.—Russell J. Turner, Butler, Pa., assignor to Guiberson Corp., Dallas, Tex. Filed Nov. 9, 1925. No. 1,613,066.

Well Casing.—Arthur C. Helm, McCook, Nebr. Filed Mar. 6, 1924. No. 1,613,105.

Connection Between Well-Pipe Sections of Different Materials.—Edwin A. Johnson, Houston, Tex. Filed June 1, 1926. No. 1,613,461.

Sand Tester for Well Strainers.—Joseph Henry McEvoy, Jr., Houston, Tex. Filed May 10, 1926. No. 1,613,469.

Drilling Apparatus.—Lemuel S. Boyd, Shreveport, La. Filed Jan. 11, 1926. No. 1,613,555.

Refining

Conversion Process.—Harry H. Armstrong, Los Angeles, Calif. Filed July 9, 1923. No. 1,613,010.

Process and Apparatus for the Condensation of Vapors.—David G. Brandt, Westfield, N. J., assignor to Doherty Research Co., New York, N. Y. Filed Jan. 31, 1922. No. 1,613,016.

Process of Cracking Oil.—Charles Owens, Chattanooga, Tenn. Filed May 28, 1921. No. 1,613,124.

Process of and Apparatus for Refining Oils.—Charles Walcott Stratford, San Francisco, Calif. Filed Sept. 8, 1925. No. 1,613,298.

Process of Revivifying Fuller's Earth.—Leon A. Tarbox, Oil City, Pa., assignor to Emlenton Refining Co., Emlenton, Pa. Filed Apr. 10, 1925. No. 1,613,299.

Oil-Still—John E. Bell, deceased, late of Brooklyn, N. Y., by Lola R. Bell, executrix, Brooklyn, N. Y., assignor to Sinclair Refining Co., New York, N. Y. Filed Jan. 22, 1925. No. 1,613,306.

Natural Gas

Recovering Gasoline.—Fred E. Hosmer, Fort Worth, Tex. Filed July 16, 1926. No. 1,613,108.

Apparatus for Treating Hydrocarbons.—Julius Edward Kobernik, Fullerton, Calif., assignor to Newton Process Manufacturing Co., Fullerton, Calif. Filed Apr. 1, 1925. No. 1,613,352.

Miscellaneous

Vapor Line for Oil Tanks.—John M. Evans, San Francisco, Calif., assignor to Standard Oil Co. of California, San Francisco, Calif. Filed Nov. 20, 1924. No. 1,613,269.

CLEVELAND, O.—Several changes have been made recently in the East Ohio Gas Co. C. E. Gallagher, formerly agent of the company at Youngstown, O., has been made assistant general manager. He is a brother to R. W. Gallagher, president and general manager.

J. G. Hanks, for a number of years the field superintendent of the company, has been made general superintendent, and W. R. Knowles has been made field superintendent.

George Horsley, Jr., formerly superintendent of No. 2 works at Cleveland, has been made agent at Youngstown.

MORRILTON, ARK.—William Alston has become agent here for the Continental Oil Co., Denver.

ON THE LAZY BENCH

National Petroleum News

THE MOST UNREASONABLE FISHING STORY

"Briney" of the Ferret Manufacturing Company, Canton, Ohio, is awarded the carton of "Mail Pouch" for the most unreasonable fishing story related in the most reasonable way. Here it is:

"Bill Langdon, drilling in the Wood County, Ohio field, fell off the derrick stool and two bits went driving into the deep hole; throwing off the bull rope, he started bailing. The contractor arrived and asked him what he was doing. To which he replied, "I am fishing for two bits." "How in the world do you expect to fish out a bit with the bailer," asked the contractor, "Why not use the fishing tools?"

"Fishing tools be d——" exclaimed Bill—"I fell off the stool and the two bits I had in my pocket for lunch rolled out and into the hole; I'm fishing for lunch."

—The Bridgeport Driller

◆ ◆ ◆

MISTAKES

When the plumber makes a mistake he charges for it.

When a lawyer makes a mistake it is just what he wanted, because he has a chance to try the case all over again.

When a carpenter makes a mistake it's just what he expected.

When a doctor makes a mistake he buries it.

When a judge makes a mistake it becomes the law of the land.

When a preacher makes a mistake nobody knows the difference.

But when an editor makes a mistake —Good night!

—The Loreco Diamond

◆ ◆ ◆

BETWEEN HOME BREW ARTISTS

"How's the last batch of stuff you made?"

"The strongest I ever made; a silver dollar will float on top of it."

"That's a good test. I put a silver dollar in mine the other day to see if it would float, but before I could grab it, it had melted."

◆ ◆ ◆

"I am afraid you are ignoring our efficiency system, Smith," said the Manager.

"Perhaps so, sir, but somebody has got to get the work done."

—Flash Points

◆ ◆ ◆

"Why did they take Dr. Jeckyll's dentist license from him?"

"Caught him sellin' false teeth."

—Union Oil Bulletin.

FAVORITE SAYINGS OF FAMOUS FOLKS

The flivver owner: "Wouldn't that jar you?"

The radio orator: "I'll tell the world."

The murderer: "Well, I'll be hanged."

The judge: "Fine."

The flapper: "No one has anything on me."

The telephone girl: "I got your number."

The sausage-maker: "Dog gone."

The fisherman: "I'll drop a line."

The author: "All write."

The seamstress: "Darn it."

—The Trico News

◆ ◆ ◆

AND THEY USE IT THROUGH METERS, TOO

After much excitement the Smiths at last had managed to get under way on their motor trip.

As they drove along they began to wonder if they had left anything behind.

Mrs. Smith gave a shriek.

"Oh, Harry, she gasped, "I forgot to turn off the electric iron!"

"Don't worry, darling," he replied, "nothing will burn. I forgot to turn off the shower bath."

—The Marion Line

◆ ◆ ◆

THAT'S RIGHT

A. Wakefield (American Oil)—"It runs in the best of families."

R. J. Leupold—"What's that? A silk stocking?"

Wakefield—"No, the water in the kitchen sink."

—The Unloading Rack

◆ ◆ ◆

A man stated in a Chicago court that he always carries $500 in cash with him. After all one never knows when one may be obliged to take a taxi.

—Keene Thrusts

◆ ◆ ◆

Wife—"What weeds are the easiest to kill?"

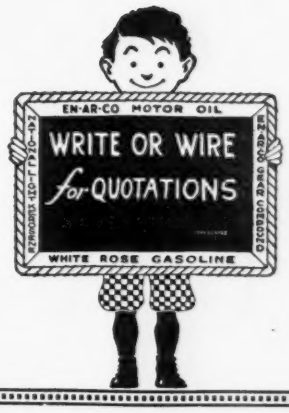
Her Second Husband—"Widows' weeds—all you have to do is say, 'Wilt thou?' and they wilt."

—The Loreco Diamond

◆ ◆ ◆

Where the bootlegger gets his whiskey is a mystery still.

—The Bridgeport Driller



The
NATIONAL REFINING COMPANY
PETROLEUM PRODUCTS

THREE MODERN REFINERIES:
Marietta, Ohio Refinery
operated on Pennsylvania Crude
Findlay, Ohio Refinery
operated on Ohio Crude
Coffeyville, Kansas Refinery
operated on Midcontinent Crude

National Headquarters
NATIONAL BLDG., CLEVELAND, O.

Something New in Cases

The bottles are held securely at the bottom by a narrow ledge, and at the top by a spring clip around their neck. There is a partition between each bottle which eliminates any chance of breakage and scratched labels.

The case itself has a stiff box frame, covered with smooth black cowhide, French sewed at edges, and lined with red velvet. Contains fourteen 4 oz. cut-bottom bottles with metal capped corks and ten ½ oz. squat grease jars held by adjustable bar. 209 Complete, with your name embossed in gold, only $15.75

Less 10% for cash.

Other Styles in our FREE Catalog

L-U-C-E

Builders of Sales Luggage

614 Delaware KANSAS CITY, MO.

WAR on WASTE!

The SINCLAIR LAW of LUBRICATION

For every machine
of every degree
of wear there is
a scientific
SINCLAIR OIL
to suit its speed
and seal its power

SINCLAIR OILS

SINCLAIR Opaline Motor Oil sales are based on the Sinclair Law of Lubrication—a common-sense method for recommending the correct motor oil to eliminate faulty lubrication, conserve power and sustain engine efficiency.

Sinclair dealers selling Opaline Motor Oil to their regular customers by this simple method of correct recommendation are doing a worthwhile part in the "War on Waste"!

May we tell you more of this sound method for increasing your gallonage?

SINCLAIR REFINING COMPANY
45 Nassau Street, New York
Atlanta Detroit Kansas City Chicago Houston Omaha

SINCLAIR OPALINE MOTOR OIL
REG. U. S. PAT. OFF.

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Refinery - Tank Wagon Markets

National Petroleum News

Light Buying and Tank Wagon Cuts Disturb Mid-Continent Market

Staff Special
TULSA, Jan. 14

THE Mid-Continent gasoline market was on uncertain footing this week because of small-lot buying, lack of export orders, a Standard of Indiana tank wagon price reduction, and unfavorable weather.

Export buying probably has done more in the last few weeks to keep the gasoline market on an even keel than any other factor. Export representatives were generally inactive this week; most of them were covered on their January purchase orders, and had not received February and March instructions. Refiners did not let the export lull worry them, however, since many already had predicted that there would be a slack week or 10 days around the middle of the month.

Export representatives today were reported to be keeping a few inquiries in the market in north Texas at 10½ cents a gallon for 64-66, 375 end point gasoline, but apparently refiners in that area were so well sold up that no new orders were being accepted at that figure. It was generally predicted that any export orders of consequence which might come into the field between now and Feb. 1 would stiffen the higher gravity gasoline considerably.

Refiners' representatives in northern marketing territory report weather has been extremely unfavorable with temperatures not low enough to freeze muddy roads sufficiently for convenient travel and, also not low enough to cause heavy consumption of distillates and fuel oils.

Refiners Hold to Quotations

MOST jobbers continued to buy from hand to mouth with no apparent attempt to fill storage. Two large northern jobbers placed orders for U. S. Motor gasoline this week, one large Oklahoma refiner being credited with taking both orders at around 8½ to 8⅝ cents a gallon. One order was for 50 cars and the other for around 250 cars.

Several refiners rigidly maintained quotations of 9½ cents on 58-60 U. S. Motor throughout the week. Odd sales were reported by them at that figure. Other refiners offered Motor more freely Monday at 9 and 9¼ cents. When the tank wagon price cut was announced by Standard Oil Co. of Indiana late Tuesday, one or two refiners quoted some Motor at slightly under 9 cents. Most salesmanagers kept their quotations unchanged. Today at least one refiner who had sold some U. S. Motor at 8¾ cents for resale, was back to a minimum of 9 cents. The tank wagon price cut apparently had been discounted to a certain extent.

Kansas refiners enjoyed a fair business on U. S. Motor. Texas plants were so loaded with export orders that little attention was paid to U. S. Motor. The Louisiana and Arkansas refiners just about kept pace with their production.

Several refiners who are making 60-62, 437 e.p. gasoline, reported sales were larger than for U. S. Motor. They continued to ask approximately ¼-cent a gallon more for this grade than for straight U. S. Motor.

One refiner in north Texas who is making a 60-62, 400 e.p. product was reported to have offered some at 9⅝ cents a gallon, which would be approximately 9¾ cents, f.o.b. Group 3. Oklahoma refiners kept their price on this product, however, at 10 cents and better throughout the week.

The 64-66, 375 e.p. gasoline was reported to be moving in fair shape to the domestic trade. A few refiners quoted as high as 11 cents throughout the week, but most moved closer to 10¾ cents.

Naturals Drop Rapidly

NATURAL gasolines have skidded. All grades lost approximately ¾-cent this week in Oklahoma, and more in Texas. For the first time in several months supply of naturals already loaded is abundant and no instructions available on which they can be moved.

In the latter part of 1926 eastern refiners bought considerable natural gasoline from the Oklahoma and Texas fields. A few large contracts expired Jan. 1, however, and this buying support has been withheld so far this year. Support from refiners in Oklahoma has been fair, but the demand has not been large enough to take care of the enormous production.

Since Jan. 1 prices of oil grades have fallen more than 1 cent a gallon. Several of the larger companies which have storage facilities, are finding their tanks filling more rapidly than they would like to see them at this season. As a result a few offers of 50 and 100-car lots have been made at considerably under the spot market. But those offers have found no takers.

The salesmanager of one large company has cast his eyes westward in the hope that he can move some material to California, but he frankly expressed the opinion there probably would be no success in that move because naturals in California probably would react soon. The freight rate is approximately 7 cents a gallon from Oklahoma which on the present California price scale would net the Oklahoma manufacturers approximately 6½ cents a gallon.

Texas Situation Also Bad

WHEN the heavy buying from the East fell off Texas naturals went on the skids even harder than those in Oklahoma. Advantageous freight rates caused eastern buyers to specify in their contracts that naturals should come from Texas. That put Texas prices higher than those in Oklahoma. Now they are about on a level with indications that they will get back to about the usual differential of ⅛-cent under Oklahoma's prices unless more heavy buying develops.

The decline in prices of naturals has worked to the advantage of refiners who are making 60-62, 437 e.p. gasoline. When Grade C was around 8 cents a gallon refiners could break about even by getting ¼-cent more for the 60-62 gravity goods than for the 58-60 material. They have been able to show a slight profit this month, however, with naturals steadily going down.

Distillates failed to move well the first of the week, but with cooler weather around the middle and the latter part of the week shipments increased slightly. One refiner had a quantity of 38-40 straw material loaded and offered it at 5 cents to get instructions. He soon had his goods rolling and put his price back to 5¼ cents. Another refiner reported he was having some difficulty in getting 5⅛ cents for his goods, which has a

(Continued on page 101)

JENKINS CRACKING PROCESS

PRODUCES QUALITY GASOLINE

Facts from performance

January 1, 1927

32 Units

operating or under construction in

15 Refineries

62½% of the 1926 Sales were repeat orders

GRAVER *Founded 1857* Corporation

EAST CHICAGO, INDIANA

NEW YORK Grand Cent. Term. | CHICAGO Steger Building | TULSA Atlas Life Bldg. | HOUSTON West Building

Refinery Markets on Light Oils and Lubricants

Pennsylvania, Oklahoma, Kansas, North and South Texas, Louisiana, Arkansas, California and New England

GASOLINE AND NAPHTHA

PENNSYLVANIA	Prices Jan 17	Prices Jan. 10	Prices Jan. 3
52-54 Naphtha	11½-12	11½-12	11¾-12
54-56 Naphtha	11¾-12¼	11¾-12¼	11¾-12¼
58-60 Gasoline	11⅝ 12	11⅝-12	11¾-12¼
60-62 Straight-run gasoline	12½ 13	12½-13	12½-13
64-66 Straight-run gasoline	13½-14	13½-14½	13½-14
68-70 Straight-run gas.350-360 E.P.	14¾-15	14¾-15	14¾-15
68-70 Straight-run gas.305-320 E.P.	19 -20	19 -20	19 -20
OKLAHOMA			
48-50 450 E. P. naphtha	9 - 9⅛	9 - 9⅛	9 - 9⅛
50-52 450 E. P. naphtha	9 - 9⅛	9 - 9⅛	9 - 9⅛
56-58 450 E. P. gasoline	8¾- 8⅞	8¾- 8⅞	8¾- 8⅞
56-58 U. S. Motor gasoline	8¾- 9	8¾- 9	8¾- 9
58-60 450 E. P. gasoline	8¾- 8⅞	8¾- 8⅞	8¾- 8⅞
58-60 U. S. Motor 437 E. P.	9 - 9¼	9 - 9¼	9 - 9¼
60-62 437 E. P. gasoline	9¼- 9½	9¼- 9½	.....
60-62 400 E. P. gasoline	10 -10⅛	10 -10¼	10 -10¼
64-66 390 E. P. gasoline	10¼-10½	10⅜-10⅝	10½-10⅝
64-66 375 E. P. gasoline	10⅝-10¾	-10¾	10⅝-10⅞
68-70 350-360 E. P. gasoline	11¼-11½	11¼-11½	11¼-11½
64-66 437 E. P. blend	- 9	9 - 9¼	9 - 9⅛
KANSAS*			
58-60 U. S. Motor gasoline	9¼- 9½	9⅜- 9⅝	9½- 9⅝
60-62, 400 E.P. gasoline	10¼-10½	10¼-10½	10⅜-10⅝
64-66, 375 E.P. gasoline	10⅞-11	-11	11 -11¼
*F. O. B. refinery Kansas destination.			
NORTH TEXAS			
48-50 450 E. P. naphtha	- 9	9 - 9¼	9 - 9¼
56-58 450 E. P. gasoline	- 8⅝	8¾- 9	8¾- 9
58-60 450 E. P. gasoline	- 8¾	8⅞- 9	8⅞- 9
56-58 U. S. Motor gasoline	- 8⅞	- 9	- 9
58-60 U. S. Motor gasoline	9 - 9⅛	9 - 9¼	9⅛- 9¼
64-66 390 E. P. gasoline	10¼-10½	10⅜-10⅝	10⅜-10⅝
64-66 375 E. P. gasoline	10⅝-10¾	10⅝-10¾	10⅝-10¾
68-70 350-360 E. P. gasoline	-11¼	-11¼	11¼-11½
NORTH LOUISIANA			
58-60 U. S. Motor 437 E. P.	9 - 9¼	9⅛- 9¼	9⅛- 9⅛
ARKANSAS			
56-58 450 E. P. gasoline	- 8¾	- 8¾	8¾- 8⅞
58-60 450 E. P. gasoline	- 8⅞	- 8⅞	8⅞- 9
58-60 U. S. Motor gasoline	- 9	9⅛- 9¼	9¼- 9½
CALIFORNIA			
*54-58 U. S. Motor 437 E. P.	9 - 9½	9 - 9½	9 - 9½
*58-61 U. S. Motor, 437 E. P.	10½-10¾	10½-10¾	10½-10¾
*42-45 Engine distillate,445-480E.P.	7 - 7½	7 - 7½	7 - 7½
*2c tax to be added if used in state.			
NEW ENGLAND (F. O. B. Boston and Fall River)			
58-60 U. S. Motor gasoline	-12½	-12⅜	-12⅜

NATURAL GASOLINE

(Note: End point of all grades, not over 375° F.)

OKLAHOMA			
Grade AA, 80-87.9 375 E. P.	- 8½	9⅛- 9⅜	9⅛- 9¼
Grade A, 72-79.9 375 E. P.	- 8½	9⅛- 9⅜	9⅛- 9¼
Grade BB, 84-92, 375 E. P.	- 7½	8⅛- 8¼	- 8⅝
Grade B, 76-83.9, 375 E. P.	- 7½	8⅛- 8¼	- 8⅝
Grade C, 80-90, 375 E. P.	- 7¾	- 8	- 8½
NORTH LOUISIANA			
*Grade Double A	- 9	- 9½	-10
*Grade Double B	- 8	8½- 8⅝	- 9¼
*Grade C	- 7¾	8¼- 8½	9 - 9⅛
*F. O. B. Monroe District.			
NORTH TEXAS			
*Grade Double A	- 8½	9⅛- 9⅜	- 9¼
*Grade A	- 8½	9⅛- 9⅜	- 9¼
*Grade Double B	- 7½	8¼- 8¼	- 8¾
*Grade B	- 7½	8¼- 8¼	- 8¾
*Grade C	- 7¼	- 8	8⅛- 8¼
*F. O. B. Breckenridge.			
CALIFORNIA			
75-85, 375-390 E. P. blend	11½-13	11½-13	11½-13
PENNSYLVANIA			
68-70 Grav. 437 E. P. blend	12¾-12½	12¾-12½	12¾-12½
64-66 Grav. 437 E. P. blend	12 -12¼	12 -12¼	12 -12¼
60-62 Grav. 437 E. P. blend	12 -12¼	12 -12¼	12 -12¼
68-70 Grav. 420 E. P. blend	12¼-12½	12¼-12½	12¼-12½

BURNING OILS

PENNSYLVANIA			
45 Water White Kerosene	8¼- 8½	8½- 8½	8½- 8¾
46 Water White Kerosene	8¾- 9	8¾- 9	9 - 9¼
47 Water White Kerosene	9¼- 9¾	9¼- 9¾	9¼- 9¾
OKLAHOMA			
41-43 Water White Kerosene	5¾- 6	6 - 6⅛	6 - 6¼
42-44 Water White Kerosene	6½- 6¾	- 6¾	6¾- 7
KANSAS			
41-43 w. w. kerosene	6¼- 6½	6⅜- 6⅝	6½- 6¾
42-44 w. w. kerosene	6¾- 7	- 7	- 7½
NORTH TEXAS			
40-42 Water White Kerosene	5⅝- 5¾	- 5¾	- 6
41-43 Water White Kerosene	5¾- 6	5¾- 6	6 - 6⅛
NORTH LOUISIANA			
41-43 Water White Kerosene	- 6¾	- 7	7 - 7¼
ARKANSAS			
41-43 Water White Kerosene	- 7	- 7	- 7

CALIFORNIA	Prices Jan. 17	Prices Jan. 10	Prices Jan. 3
38-40 Water White Kerosene	6 - 6¼	6 - 6¼	6 - 6¼
NEW ENGLAND			
**40-43 Water White Kerosene	**- 9½	**-10	**-10

NEUTRAL OIL

PENNSYLVANIA			
(Viscosity at 70° F.)			
200 Vis. No. 3 Assoc. Filt.	none available for spot delivery	-30	29½-30
180 Vis. No. 3 Assoc. Filt.		-28	27½-28
150 Vis. No. 3 Assoc. Filt.		-25	24½-25
(Non-Viscous)			
34 Grav. 350-360 Flash	8 - 8¼	8 - 8¼	8 - 8¼
36 Miners Neutrals 300-305 Flash	7½- 7¾	7½- 7¾	7½- 7¾
OKLAHOMA			
(Viscosity at 100° F.)			
100 Vis. No. 2 color	7 - 7½	7 - 7½	7 - 7½
150 Vis. No. 3 color	9 -10	9 -10	9 -10
150 Vis. No. 4 color	- 9¾	- 9¾	- 9¾
180 Vis. No. 3 color	10 -11	10 -11	10 -11
180 Vis. No. 4 color	10 -10½	10 -10½	10 -10½
180 Vis. No. 5 color	10 -10¼	10 -10¼	10 -10¼
200 Vis. No. 3 color	10¾-11¾	10¾-11¾	10¾-11¾
200 Vis. No. 4 color	-11½	-11½	-11½
200 Vis. No. 5 color	9¼-11¼	9¼-11¼	9¼-11¼
220 Vis. No. 3 color	12 -13½	12 -13¾	12 -13¾
220 Vis. No. 4 color	-13	-13	-13
220 Vis. No. 5 color	12 -12¾	12 -12¾	12 -12¾
240 Vis. No. 3 color	14 -15	14 -15	14 -15
240 Vis. No. 4 color	-14½	-14½	-14½
240 Vis. No. 5 color	13 -14	13 -14	13 -14
280 Vis. No. 3 color	16 -17	16 -17	16 -17
280 Vis. No. 4 color	-16½	-16½	-16¾
280 Vis. No. 5 color	15 -16	15 -16	15 -16
300 Vis. No. 5-6 color	-17	-17	-17
GULF COASTAL (Viscosity at 100° F; pour test 0)			
100 Vis. No. 2 Color Unfilt. Pale	8 - 9	8 - 9	8 - 9
200 Vis. No. 3 Color Unfilt. Pale	11 -12	11 -12	11 -12
300 Vis. No. 3 Color Unfilt. Pale	12 -13	12 -13	12 -13
500 Vis. No. 3½ Color Unfilt. Pale	14 -15	14 -15	14 -15
750 Vis. No. 4 Color Unfilt. Pale	16 -17	17 -18	17 -18
200 Vis. No. 5½ Color Red Oil	9 -10	9 -10	9 -10
300 Vis. No. 5½ Color Red Oil	10 -11	10 -11	10 -11
500 Vis. No. 6 Color Red Oil	12 -13	12 -13	12 -13
750 Vis. No. 6 Color Red Oil	15 -16	15 -16	15 -16
CALIFORNIA (Viscosity at 100° F.)			
100 Vis. No. 2 color	9½-10	9½-10	9½-10
100 Vis. No. 3 color	8 - 8½	8 - 8½	8 - 8½
200 Vis. No. 3 color	10 -10½	10 -10½	10 -10½
300 Vis. No. 3 color	11 -11½	11 -11½	11 -11½
450 Vis. No. 3½ color	13 -13½	13 -13½	13 -13½
550 Vis. No. 3½ color	15 -15½	15 -15½	15 -15½
600 Vis. No. 3½ color	15½-16	15¾-16	15¾-16
100 Vis. No. 5 color	7 - 7½	7 - 7½	7 - 7½
200 Vis. No. 5 color	9 - 9½	9 - 9½	9 - 9½
300 Vis. No. 5 color	9½-10	9½-10	9½-10
400 Vis. No. 6 color	11½-12	11½-12	11½-12
500 Vis. No. 6 color	12 -12½	12 -12½	12 -12¾
600 Vis. No. 6 color	12½-13	12½-13	12½-13
700 Vis. No. 7 color	14½-15	14½-15	14½-15

CYLINDER STOCKS

OKLAHOMA			
190-200 Vis. at 210° Bright Stock	31 -35	31 -35	31 -35
150-160 Vis. at 210° Bright Stock	27 -31	27 -31	27 -31
600 E Stock 140-150 Vis —210°	18 -20	18 -20	18 -20
600 Steam Refined Olive Green	8 -11	8 -11	8 -11
600 Steam Refined Dark Green	5½- 7½	5½- 7½	5½- 7½
Black Oil	5 - 6	5 - 6	5 - 6
PENNSYLVANIA (1-inch Immersion Test)			
600 Steam Refined	11¾-12½	11½-12½	11½-12½
650 Steam Refined	15½-16½	15½-16½	15½-16½
600 Flash	19½-20½	19½-20½	20½-21
625 Flash	29 -30	28½-29½	30 -31
600 Warren E	20 -20½	19½-20½	19½-20½
600 Oil City E	19 -19½	18½-19	18½-19
600 D Filtered	-26	25½-26	25 -25½
Cold Test Stocks (bright filtered)	36½-38	36 -37	36½-37
Cold Test Stock (dark filtered)	34 -35	34 -35	34½-35

(Note—Prices of total immersion test goods average 1 to 3 cents per gallon higher.)

LONG RESIDUUM STOCKS

PENNSYLVANIA			
60-65 vis. @ 210, 440-450 flash No. 5½ color	-34	-33½	-33½
70-75 vis. @ 210, 450-455 flash No. 6 color	-35	-34½	-34½
80-85 vis. @ 210, 440-450 flash No. 7 color	-36	-35½	-35½
80-85 vis. @ 210, 450-460 flash No. 7-8 color	-37	-36½	-36½
80-85 vis. @ 210, 460-465 flash No. 7 color	-38	36½-37½	36½-37½
95-100 vis. @ 210, 490-495 flash No. 8 color	-39	-38½	-38½

**Only one refiner quoting.

The bugbear of Sludge Acid Concentration
may *now* be avoided by employing

THE GEYSER-ACTION PROCESS

(*using Skoglund's Acid Concentrator*)

which requires only *One Stage* to bring the Acid up to *Strength* giving a *High Yield* at a *Low Cost*.

Simple in Operation, necessitating but few shutdowns to clean or repair the Apparatus.

No Fume Nuisance or Filthy Product

Patented and Patents Pending

GEO. F. HURT ENGINEERING CORP.

52 Vanderbilt Ave. New York City

TRUCK TANKS WITH A REPUTATION

From coast to coast BROWN CERTIFIED TANKS are the standard of comparison. There are no secrets nor patents on these tanks, just good, honest, full weight material, correctly built by real tradesmen.

When you buy a truck tank you dont want to purchase substitutes, nick-nacks, nor freak experiments, You WANT, and have a RIGHT TO EXPECT, EFFICIENT SERVICE, OIL TIGHT DELIVERY, and ATTRACTIVE APPEARANCE.

These are the reasons why hundreds of successful Oil Companies have standardized on

BROWN CERTIFIED TRUCK TANKS

It will pay you to investigate their merits

A 1650 gallon with stake barrel carriers and underslung canboxes

BROWN SHEET IRON & STEEL CO. **ST. PAUL, MINN.**

— — — — — — — — — — — — — — — — *Tear out this page and mail it today* — — — — — — — — — — — — — — — —

We are interested in your **tanks.** Send your catalog and prices.

Make of Truck_____ Size Tank Required_____

Other equipment on which you may send prices_____

Name_____ Address_____

Refinery Markets on Wax and Heavy Oil Products

Pennsylvania, Oklahoma, Kansas, North and South Texas, Louisiana, Arkansas, California and New England

WAX

*PENNSYLVANIA	Prices Jan. 17	Prices Jan. 10	Prices Jan. 3
122-124 White Crude Scale	4⅝- 4¾	4⅝- 4¾	4⅝- 4¾
124-126 White Crude Scale.	- 4¾	- 4¾	- 4¾
OKLAHOMA			
124-126 White Crude Scale.	4¼- 4⅜	4¼- 4¾	4¼- 4¾
CALIFORNIA			
White Crude Scale.....	6 - 7	6 - 7	6 - 7

*Per Pound, New York

FUEL OIL

PENNSYLVANIA			
36-40 Fuel Oil.....	6½- 6¾	6⅜- 6¾	6½- 6¾
30-34 Fuel Oil.....	6¼- 6½	6¼- 6⅜	6¼- 6⅜
28-30 Fuel Oil.....	6¼- 6⅜	6¼- 6⅜	6¼- 6⅜
OKLAHOMA			
38-40 Straw distillate.....	5⅛- 5¼	5⅛- 5⅜	5¼- 5⅜
36-38 Straw distillate.....	- 5	5 - 5⅛	5 - 5¼
32-36 Gas oil cracked (Gal.)	4⅜- 4½	4⅜- 4½	4⅜- 4½
32-36 uncracked Gas oil,(Gal.)	4¼- 4½	4¼- 4½	4⅜- 4½
28-30 Fuel oil (Bbl.).....	*1 50 -1 60	1.55 -1.60	1.50 -1.60
26-28 Fuel oil (Bbl.).....	*1 30 -1 40	1.30 -1.40	1 30 -1 40
24-26 Fuel oil (Bbl.).....	1 25 -1 30	1.25 -1.30	1.27½-1.30
22-26 Fuel oil (Bbl.).....	1 20 -1 25	1.20 -1.25	1.22½-1.27½
18-22 Fuel oil (Bbl.).....	1.17½-1 20	1 17½-1.20	1.17½-1.22½
16-18 Fuel oil (Bbl.).....	1.17½-1 20	1 17½-1.20	1.17½-1.20
14-16 Fuel oil (Bbl.).....	1.15 -1 17½	1 15 -1.17½	1.15 -1.17½

*Zero cold test material bringing from 5 to 15 cents more per barrel.

KANSAS*			
38-40 straw distillate.....	5½- 5¾	5½- 5¾	5¾- 6
36-38 straw distillate.....	5¼- 5½	5¾- 5½	5½- 5¾
32-36 Gas Oil.....	- 4½	- 4½	- 4½
18-22 Fuel Oil.....	1.25 -1.35	1.25 -1.35	1.25 -1.35
24-26 Fuel Oil.....	1.45 -1.55	1.45 -1.55	1.45 -1.55

*F. O. B. refinery, Kansas destination.

NORTH TEXAS			
38-40 Straw Distillate.....	5 - 5¼	5 - 5¼	5 - 5¼
32-36 Gas Oil(Gal.) cracked	4⅛- 4¼	4¼- 4⅜	4¼- 4⅜
32-36 uncracked gas oil....	4⅛- 4¼	- 4⅜	- 4⅜
24-26 Fuel per (Bbl.).....	1.52½-1.55	1.52½-1.55	1.52½-1.55
GULF COASTAL			
Fuel.....	1.55 -1.60	1.55 -1.60	1.55 -1.60
Gas Oil.....	5¼- 5⅜	5¼- 5⅜	5¼- 5⅜

NORTH LOUISIANA	Prices Jan. 17	Prices Jan. 10	Prices Jan. 3
32-36 Gas oil, cracked (Gal.)	- 4¾	- 4¾	- 4¾
32-36 Gas oil, uncracked (Gal.)	- 4¾	4¾- 5	4¾- 5
16-20 Fuel Oil (Bbl.).....	1.25-1.30	1.22½-1.25	1.20-1.25
ARKANSAS			
30-34 Gas oil.....	4½- 4⅝	4½- 4⅝	4½- 4⅝
32-36 Gas oil.....	- 4¾	- 4¾	- 4¾
Smackover Crude Fuel....	1.25-1.30	1.25 -1.30	1.25 -1.30
CALIFORNIA*			
14-18 Fuel Oil (Bbl.).....	80 -1.00	80 -1.00	80 -1.00
14-18 Bunker Oil (Bbl.)...	80 -1.00	80 -1.00	80 -1.00
30-34 Gas Oil (Bbl.).....	1.30 -1.35	1.30 -1.35	1.30 -1.35
27 + Diesel Oil (Bbl.)....	1.15 -1.30	-1.15	-1.15

*(San Joaquin Valley, San Francisco 4c per bbl. more.)

NEW ENGLAND (F. O. B. Boston and Fall River)			
30-32 Gas Oil (Gal.).....	- 6⅛	- 6¼	- 6¼
Fuel Oil (Bunker C) Bbl..	-1.90	1.80 -1.85	1.80 -1.85

PETROLATUMS

PENNSYLVANIA (Cents Per Pound in Bulk)			
Snow White.....	8½- 9	8½- 9	8½- 9
Lily White.....	7½- 8	7½- 8	7½- 8
Cream White.....	- 6½	- 6½	- 6½
Light Amber.....	- 3½	- 3½	- 3½
Amber.....	3¼- 3½	3¼- 3½	3¼- 3½
Red.....	- 3	- 3	- 3
Green No. 5 Color.....	1¾- 2	1¾- 2	1¾- 2

PETROLEUM COKE

OKLAHOMA (Per ton in car lots)			
Lump.....	$5-$6	$5-$6	$5-$6
Breeze.....	$2-$2.25	$2-$2.25	$2-$2.25
Still Run.....	$3.25-$3.50	$3.25-$3.50	$3.25-$3.50

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the foregoing, will favor us with this information

(Continued from page 97)

slightly higher flash point than the majority of stuff in this field.

Kerosenes Still Slow

SPOT kerosenes were slow. The Magnolia Petroleum Co. bought 100 cars from Texas and Louisiana refiners Tuesday and Wednesday at 6 cents a gallon. Other orders were placed in Oklahoma for shipment during the next few weeks, indicating that marketers and jobbers alike were preparing for spring demand. One company was reported to have contracted for some deferred shipment kerosene at around 5¾ cents a gallon. Exporters apparently are still disinterested in kerosenes.

Spot fuel oils continued slow, but refiners nevertheless have reduced stocks consistently for several weeks. Most of this reduction resulted from withdrawal of oil. The high gravity fuels are fairly tight at present, with zero cold test goods bringing 5 to 15 cents a barrel above the higher cold test grades.

Low gravity fuel has been rather sluggish, a majority of refiners report. One reason probably is that low gravity fuel from Wyoming has been moving into Chicago territory at 90 cents a barrel. The freight rate is 5 cents a barrel more than from Oklahoma, but even at that purchasers are getting their oil at 95 cents a barrel, compared with $1.10 to $1.15, buyers' cars, Group 3, and $1.15 to $1.20 sellers' cars.

Gasoline Prices Holding on Atlantic Coast

NEW YORK, Jan. 17.—Bulk gasoline held up fairly well along the Atlantic Seaboard last week regardless of the decline in the Gulf markets. The high tanker rates coupled with the stronger California market are still keeping down shipments to Atlantic ports. Refiners are unable to lay U. S. Motor gasoline down here below 11¾ cents a gallon unless they own their tankers. The price quoted to jobbers was 12 to 12½ cents a gallon refinery or 13 to 13½ cents a gallon in tank cars delivered. Jobbing demand was up to expectations last week.

Consumption has been holding up well and stocks along the seaboard are comparatively light. The reduction in gasoline tank wagon prices in the Middle West failed to depress the New York markets and no general reductions here are expected.

Gulf refiners were asking 11 cents a gallon for U. S. Motor in tank cars at the refineries and 12 cents a gallon in tank cars delivered to the nearby trade. Jobbing demand in the Gulf territory has been more active regardless of the decline in bulk export prices.

Pennsylvania lubricating oils were firmer toward the end of the week. There has been a large improvement in the domestic demand, which was held largely responsible for the advance in Pennsylvania crude oil prices.

Please THE MEN!

Here's a tip from the Chippewa Spring Water Company of Chicago: They have installed Highland Cabs on their trucks, and "the men on the trucks speak very highly of these cabs."

This company realizes the advantage of having contented drivers. It also realizes the advantage of having sturdy cabs that are free from constant repairing.

Why not avail yourself of these Highland advantages and install the cabs on your own trucks.

Let us show you how the Highland Cab can make your drivers more satisfied.

THE HIGHLAND BODY MFG. CO.

430 Elmwood Place, Cincinnati Ohio

HIGHLAND *Cabs*

Gasoline Reacts Only Slightly To Tank Wagon Price Cut

Staff Special
CHICAGO, Jan. 15

A MID-WINTER gasoline reduction of 1 cent by the Standard Oil Co. of Indiana Jan. 12 was the week's feature in the Chicago resale market. The reduction was unexpected here.

The 58-60 U. S. Motor gasoline market, which was 9 to 9¼ cents Monday, reacted Jan. 12 to 8⅞ to 9 cents. Several large refiners, however, who had been quoting 9½ cents before the cut, did not change their quotations. Jobbers reported Motor was offered them at 8⅞ cents and in some instances at 8¾ cents after the reduction.

U. S. Motor gasoline demand was quiet over the first two days of the week, and a severe cold snap with much snow which swept this marketing district beginning Wednesday, reacted against buying. On the other hand, one refiner, who reported much business last week, said he had more inquiries in the last two days of the week than in the first two.

Kerosene prices also were revised by Standard of Indiana Jan. 12, but prices did not show as much reaction as did those of gasoline. The 41-43 w.w. kerosene which sold at 6 to 6¼ cents early in the week, ranged 6 to 6⅛ cents after Jan. 12. Some 5⅞-cent quotations were out Wednesday, but the market low did not change except for the one day.

High Test Demand Steady

HIGH test gasoline demand was steady over the week with no large volume of buying. Prices of 60-62, 400 e.p. gasoline opened the week at 10 to 10¼ cents, sagged to 9¾ to 10¼ cents, quotations after the tank-wagon price cut, and firmed to 10 cents today. The 64-66, 375 e.p. gasoline was 10¾ to 11 cents over most of the week, with some 10⅝-cent quotations out Wednesday. It ended the week at 10¾ to 10⅞ cents.

Sub-zero temperatures in the middle west this morning following much snow, did not stimulate the spot furnace oil market but they did bring an increased consumers demand which helped to absorb some of the distillate and gas oil stocks of dealers. Shipments on contracts kept rolling into jobbers' plants early this month when the weather was unseasonably warm and became burdensome. This cold snap helped to relieve this condition, it was pointed out.

Distillate and gas oil prices were relatively stable over the week. The 38-40 straw distillate price ranged from 5⅛ to 5½ cents, with the bulk of sales at 5¼ and 5⅜ cents. Gas oil, 32-36 gravity dark, was 4½ to 4¾ cents, and 32-36 straw gas oil was 4⅞ cents with some sales later in the week at 5 cents.

Fuels were quiet. Prices fluctuated during the week, the 18-22 fuel selling at $1.20 to $1.22½ earlier in the week and ranging $1.20 to $1.25 later; 24-26 fuel was $1.30 to $1.32½ until today when it was $1.30 to $1.35; and 28-30 fuel was steady at $1.60 to $1.65. Smackover was $1.25 with some sales reported at $1.27½ and at $1.30.

Mild winter temperature is predicted for early next week in the Chicago forecast district with occasional periods of precipitation. Colder is forecast for later in the week.

BUYS COMPOUNDER'S GAS BUSINESS

NEW YORK, Jan. 17.—The service stations, pumps, equipment and gasoline business of the Sterling Oil Corp., Buffalo, N. Y., were purchased on Dec. 27 by Swan-Finch Oil Corp., according to E. V. Moncrieff, secretary of the latter.

The Sterling company is a marketer of petroleum products and compounder of core and cutting oils, greases, etc.

PLATT'S
OILGRAM
Petroleum Markets-Every Day

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CHICAGO—360 N. Michigan Ave.
CLEVELAND—879 Caxton Bldg.**

Week's Price Changes Tank Wagon Markets

Gasoline Changes

Standard of New York—T.w. and s.s. prices gasoline reduced 2 cents, Manchester, N. H., to 22 cents and 24 cents respectively, including tax, **Dec. 22.**

Standard of Kentucky—T.w. and s.s. prices gasoline advanced 2 cents, Alabama, Georgia and Florida, **Jan. 13.**

Standard of Indiana—T.w. and s.s. prices gasoline reduced 1 cent, through territory generally, **Jan. 12.** All points were affected except Minneapolis, Des Moines, and Sioux City where prices were below normal prior to the reduction, and points in South Dakota which were mentioned in National Petroleum News, Jan. 12 issue, page 28, which points had been reduced earlier this month to meet competition.

Standard of Nebraska—T.w. and s.s. prices gasoline reduced 1 cent, through Nebraska, except points where prices were already below normal, **Jan. 13.** Omaha and Norfolk were unchanged.

Magnolia Petroleum—T.w. and s.s. prices gasoline reduced 2 cents, Muskogee and Tulsa, to 18 cents and 21 cents respectively, **Dec. 1.** T.w. and s.s. prices reduced 2 cents at Fort Smith and Little Rock, to 19 cents and 22 cents respectively, **Dec. 15.**

T.w. and s.s. prices gasoline reduced 2 cents, San Antonio, to 17 cents, **Jan. 10.**

Kerosene Changes

Standard of New Jersey—Kerosene reduced 1 cent, through territory except Baltimore and Washington, to 15 cents tank wagon generally, **Jan. 17.**

Standard of Indiana—Kerosene reduced from .4 cent to 1.5 cents, through territory except Michigan and Indiana which were unchanged, **Jan. 12.** Prices at Chicago were reduced ½-cent, and elsewhere in Illinois .4 cent; Wisconsin, Iowa and Missouri were reduced .9 cent; Minnesota and North Dakota, 1.2 cents; Kansas and Oklahoma 1.5 cents, and South Dakota, .7 cent.

Standard of Louisiana—Kerosene reduced 1½ cents, through territory, **Jan. 14.**

Standard of Nebraska—Kerosene reduced ¾-cent through Nebraska, except at points where prices had been below normal, **Jan. 13.**

Magnolia Petroleum—Kerosene reduced 2 cents, Fort Worth, to 13 cents, **Jan. 8.**

Kerosene reduced 2 cents, Muskogee, to 11 cents, **Jan. 12.** Kerosene reduced 1½ cents at Fort Smith and Little Rock, to 13 cents, **Jan. 14.**

Continental Oil—Kerosene reduced ½-cent, Colorado, Wyoming, Montana and New Mexico, and 1 cent in Idaho and Utah, **Jan. 17.**

GULF COAST LUBES IMPROVE

HOUSTON, Jan. 15.—Manufacturers of Gulf Coastal zero cold test lubricants report January business greatly improved over December. Jobbers are again taking out goods freely on contracts, and spot sales are reported to be picking up.

Tank Wagon, Service Station Markets for Gasoline and Kerosene In United States Territories and Canada

These Prices in Effect Jan. 17, 1927

S. O. NEW JERSEY TERRITORY

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Atlantic City, N. J.	18	0	18	*	15
Newark, N. J.	18	0	18	2c	15
Annapolis, Md.	18	2	20	*	15
Baltimore, Md.	18	2	20	23	10
Cumberland, Md.	18	2	20	23	15
Washington, D. C.	18	2	20	23	13
Danville, Va.	18	4½	22.5	*	15
Norfolk, Va.	18	4½	22.5	25.5	15
Richmond, Va.	18	4½	22.5	25.5	15
Roanoke, Va.	18	4½	22.5	25.5	15
Petersburg, Va.	18	4½	22.5	*	15
Williamsburg, Va.	18	4½	22.5	*	15
Charleston, W. Va.	18	3½	21.5	24.5	15
Clarksburg, W. Va.	18	3½	21.5	24.5	15
Keyser, W. Va.	18	3½	21.5	*	15
Parkersburg, W. Va.	18	3½	21.5	24.5	15
Wheeling, W. Va.	18	3½	21.5	24.5	15
Charlotte, N. C.	19	4	23	26	15
Hickory, N. C.	19	4	23	*	15
High Point, N. C.	19	4	23	*	15
Mt. Airy, N. C.	19	4	23	*	15
Salisbury, N. C.	19	4	23	*	15
Charleston, S. C.	19	5	24	27	15
Columbia, S. C.	19	5	24	27	15

*Dealers set own prices. S. O. New Jersey does not operate station.

S. O. NEW YORK

Due to local price conditions at many points in S. O. New York territory, actual prices on both gasoline and kerosene are being made at under the posted tank wagon prices published below.

*New York City	21	0	21	25	18
Albany, N. Y.	19	0	19	21	18
Buffalo, N. Y.	18	0	18	21	18
Rochester, N. Y.	18	0	18	22	14
Syracuse, N. Y.	18	0	18	20	18
Boston, Mass.	20	0	20	22	15
Augusta, Me.	21	3	24	27	18
Manchester, N. H.	20	2	22	24	18
Burlington, Vt.	21	2	23	25	18

*In steel barrels.

ATLANTIC REFINING

Pittsburgh, Pa.	18	*	18	*23	16
Philadelphia, Pa.	18	*	18	*23	16
Allentown, Pa.	18	*	18	*23	16
Erie, Pa.	18	*	18	*23	16
Scranton, Pa.	18	*	18	*23	16
Altoona, Pa.	18	*	18	*23	16
Dover, Del.	18	2	20	23	16
Wilmington, Del.	18	2	20	23	16
Providence, R. I.	19	1	20	22	18
Boston, Mass.	19	0	19	21	18
Springfield, Mass.	19	0	19	21	18
Worcester, Mass.	19	0	19	21	18
Hartford, Conn.	19	2	21	24	17
New Haven, Conn.	19	2	21	24	18

*2-cent state tax is collected by retail dealer and paid by him directly to state.

S. O. KENTUCKY

Lexington, Ky.	18	5	23	26	17
Louisville, Ky.	17	5	22	25	17
Covington, Ky.	18	5	23	26	17
Clarksdale, Miss.	16	4	20	23	14.5
Gulfport, Miss.	††17.5	4	††21.5	24.5	15
Jackson, Miss.	16	4	20	23	15.5
Natchez, Miss.	15.5	4	19.5	22.5	15
Vicksburg, Miss.	15.5	4	19.5	22.5	15
Birmingham, Ala.	18	4	22	25	17.5
Mobile, Ala.	17	4	21	24	16
Montgomery, Ala.	*19	4	23	26	*18.5
Atlanta, Ga.	†16	5½	20	23	18
Augusta, Ga.	†16	5½	20	23	17
Macon, Ga.	†16	5½	20	23	18
Savannah, Ga.	†16	5½	20	22	16
Jacksonville, Fla.	14	4	18	21	16
Miami, Fla.	16	4	20	23	17.5
Tampa, Fla.	14	4	18	21	16
Pensacola, Fla.	**15	4	**19	22	16.5

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosene at Montgomery included.

†Georgia has ½ cent per gal. inspection fee on gasoline which is deducted as well as the state gasoline road tax of 3½ cents, to get the actual net tank wagon market to dealer.

**Both tank wagon prices include 1c city tax at Pensacola, which went into effect Oct. 15, 1926.

††Both tank wagon prices at Gulfport include special Sea Wall tax of 2c.

S. O. INDIANA

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Chicago, Ill.	†17	0	†17	19	13
Decatur, Ill.	17.2	0	17.2	19.2	13.6
E. St. Louis, Ill.	16.1	0	16.1	18.35	12.7
Joliet, Ill.	17.4	0	17.4	19.4	13.8
Peoria, Ill.	17.2	0	17.2	19.2	13.6
Quincy, Ill.	17.2	0	17.2	19.2	13.4
Indianapolis, Ind.	17.2	3	20.2	22.2	14.2
Evansville, Ind.	17	3	20	22	14
South Bend, Ind.	17.4	3	20.4	22.4	14.4
Detroit, Mich.	17.8	2	19.8	21.8	14.7
Grand Rapids, Mich.	17.7	2	19.7	21.7	14.6
Saginaw, Mich.	17.9	2	19.9	21.9	14.8
Green Bay, Wis.	17.6	2	19.6	21.6	13.4
Madison, Wis.	17.3	2	19.3	21.3	13.1
Milwaukee, Wis.	17.1	2	19.1	21.1	12.9
La Crosse, Wis.	18.2	2	20.2	22.2	14
Minneapolis, Minn.	15.2	2	17.2	19.2	13.9
Duluth, Minn.	18.5	2	20.5	22.5	13.9
Mankato, Minn.	18.1	2	20.1	22.1	13.7
Des Moines, Iowa.	16	2	18	20	13.5
Davenport, Iowa.	17.5	2	19.5	21.5	13.5
Sioux City, Iowa.	12.9	2	14.9	16.9	13.1
Mason City, Ia.	17.5	2	19.5	21.5	13.5
St. Louis, Mo.	*16.6	2	18.6	20.6	12.6
Kansas City, Mo.	††17.9	2	19.9	21.9	11.9
St. Joseph, Mo.	††17.5	2	19.5	21.5	12.5
Fargo, N. D.	19.9	2	21.9	23.9	15.9
Grand Forks, N. D.	19	2	21	23	16.2
Minot, N. D.	19.9	2	21.9	23.9	15.9
Pierre, S. D.	18.5	3	21.5	23.5	14.9
Huron, S. D.	18.5	3	21.5	23.5	14.9
Wichita, Kans.	**15.8	2	17.8	19.8	11.8
Bartlesville, Okla.	15.8	3	18.8	20.8	11.8

†Dumps of 100 or more gallons at 16c per gallon.

*Includes city tax of ½c.

††Includes city tax of 1c.

**Dumps of 50 gallons or more in Kansas, 1c discount per gallon.

S. O. NEBRASKA

Omaha, Neb.	14.25	2	16.25	20.25	13.25
McCook	18.75	2	20.75	22.75	14.75
Norfolk	17	2	19	21	13.75
North Platte	18.75	2	20.75	22.75	14.5
Scottsbluff	18.25	2	20.25	22.25	14

*Standard has no service station here.

CONTINENTAL OIL

Denver, Colo.	18	2	20	21	13.5
Pueblo, Colo.	15	2	17	19	13.5
Grand Junction, Colo.	21.5	2	23.5	25.5	19
Casper, Wyo.	18	2½	20.5	22.5	14
Cheyenne, Wyo.	19	2½	21.5	23.5	15.5
Butte, Mont.	19	3	22	22	19
Helena, Mont.	22	3	25	27	19
Salt Lake City, Utah.	20.5	3½	24	26	17
Boise, Ida.	22.5	3	25.5	27.5	19
Twin Falls, Ida.	22.5	3	25.5	27.5	19
Albuquerque, N. M.	20	3	23	26	18

S. O. CALIFORNIA

Phoenix, Ariz.	19	3	22	25	21.5
Los Angeles, Cal.	13.5	2	15.5	18.5	15.5
Fresno, Cal.	14	2	16	19	16.5
San Francisco, Cal.	14	2	16	19	15.5
Reno, Nev.	18	4	22	25	19
Portland, Ore.	14	3	17	20	16.5
Seattle, Wash.	14	2	16	19	16.5
Spokane, Wash.	18	2	20	23	20.5
Tacoma, Wash.	14	2	16	19	16.5

S. O. LOUISIANA

Little Rock, Ark.	15	4	19	22	13
Alexandria, La.	15	2	17	20	15
Baton Rouge, La.	14	2	16	19	13.5
Lake Charles, La.	15.5	2	17.5	20.5	15
New Orleans, La.	*15.5	2	17.5	20.5	15
Shreveport, La.	14	2	16	19	14
Lafayette, La.	15	2	17	20	14.5
Bristol, Tenn.	17.5	3	20.5	23.5	14.5
Chattanooga, Tenn.	17.5	3	20.5	23.5	13.5
Knoxville, Tenn.	17.5	3	20.5	23.5	16
Nashville, Tenn.	16	3	19	22	16
Memphis, Tenn.	15	3	18	21	15

*Includes 1c city tax on gasoline and kerosene.

S. O. OHIO

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
All Ohio points	19	2	21	23	17

MAGNOLIA PETROLEUM

Muskogee, Okla.	15	3	18	21	11
Oklahoma City	15	3	18	21	13
Tulsa, Okla.	15	3	18	21	13
Fort Smith, Ark.	15	4	19	22	13
Little Rock, Ark.	15	4	19	22	13
Texarkana, Ark.	†19	4	†*23	†*23	15
Dallas, Tex.	†16	1	†17	†17	15
Fort Worth, Tex.	†14	1	†15	†15	13
Houston, Tex.	†18	1	†19	†19	15
San Antonio, Tex.	†16	1	†17	†17	14
El Paso, Tex.	**18	1	**19	**19	16

*Within city of Texarkana, Ark., the state tax on gasoline is 1c per gal. conforming with the Texas state tax. In Texarkana district outside of the city the 4c state tax applies.

†3c per gal. discount to dealers.

**2c per gal. discount to dealers.

V. M. & P. NAPHTHA

(Changes ordinarily occur coincident with gasoline price changes)

	Oleum Spirits	V.M.& P Naphtha	Cleaner Naphtha
Chicago	18	20	20
Detroit	19.7	21.7	21.7
Kansas City	18.2	20.2	20.2
Milwaukee	18.7	*22.7	*22.7
Minneapolis	*22	*24	*24
St. Louis	17.9	19.9	19.9
New York	...	21	....

*Includes 2c state tax.

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

ONTARIO

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Toronto	24.5	3	27.5	31	24
Ottawa	24.5	3	27.5	31	24
Cochrane	31.5	3	34.5	40	29
Ft. William	25.5	3	28.5	32	26.5

MANITOBA

Winnipeg	27.5	3	30.5	34	26.5

SASKATCHEWAN

Regina	30.5	0	30.5	35	29.5

ALBERTA

Edmonton	29.5	2	31.5	35	28.5
Calgary	27.5	2	29.5	33	26.5

BRITISH COLUMBIA

Vancouver	22	3	25	29	23

QUEBEC

Montreal	24.5	3	27.5	31	24
Quebec City	26.5	3	29.5	33	26
Three Rivers	26.5	3	29.5	33	26

NEW BRUNSWICK

St. John	27.5	3	30.5	35	27
Moncton	27.5	3	30.5	35	27

NOVA SCOTIA

Halifax	27.5	3	30.5	35	27
Sydney	29.5	3	32.5	37	29

PRINCE EDWARD ISLAND

Charlottetown	27.5	3	30.5	34	27

Note: In districts surrounding these points 1c additional is added to city price.

Export Gasoline is Cheaper at Gulf; Lubricant Buying is Increased

By Special Correspondent
NEW YORK, Jan. 17

COMPARATIVELY little fresh export buying developed last week. Gasoline weakened at the Gulf Thursday and Friday. Most large refiners had been asking 11⅛ to 11¼ cents a gallon for U. S. Motor but this was reduced to 10¾ cents a gallon with reports current that even this quotation might possibly have been shaded. The reduction in the middle western gasoline tank wagon prices was held mainly responsible for the weakness.

Kerosene demand was less active. Water white was cheaper at the Gulf reflecting a slump in domestic and export buying. Gas oil was steady but quiet. Zero cold test lubricating oils have been in better demand at steady prices. Bunker oil is stronger but quiet.

Export Gasoline—New York

No bulk cargo sales were reported. Foreign inquiries have been less numerous. Leading refiners are asking 12 to 12½ cents a gallon for U. S. Motor in bulk at the refineries. A leading Independent refiner is working on an inquiry from the United Kingdom for 45,000 barrels of U. S. Motor and prime and water white kerosene for January shipment but this deal has not been closed.

Cased gasoline demand was a little more spirited and one refiner is reported to have booked an order for 50,000 cases of Motor and 64-66, 375 end point gasoline for January-February shipment to the Far East. Prices were not divulged.

Export Gasoline—Gulf Ports

Early in the week refiners were demanding 11¼ cents for U. S. Motor; 11¾ cents for 60-62, 400 end point; 12 cents for 61-63, 390 end point and 13⅛ cents for 64-66, 375 end point. On Friday the prices were 10¾ cents, 11½, 11¾ and 12¾, respectively. Export demand lagged most of week and the only sale reported for 8500 barrels of U. S. Motor at 10⅞ cents and a like quantity of 64-66, 375 end point at 12⅞ cents for February-March shipment to France. Refiners attribute the slump in export buying to the unusually high tanker rates at present. Most refiners feel these rates will break soon and that Europeans will be in the market within the next few weeks.

Cased gasoline was quiet. U. S. Motor was offered at $2.15 a case and 64-66, 375 end point at $2.35 a case in cargo lots.

Export Kerosene—New York

The export demand for kerosene was a little more active toward the end of last week but most buying was of small lots for prompt and nearby shipment. European buyers are apparently looking for lower prices over here soon. The cut in the Gulf kerosene has tended to discourage rather than to encourage export buyers. Water white was offered more freely at 9¾ cents a gallon at New York harbor refineries and prime white was quoted at 9½ cents a gallon, same basis. Cased kerosene demand was more active and one refiner sold 40,000 cases of prime and water white for January-February shipment to the Near East but prices were withheld.

Export Kerosene—Gulf Ports

Bulk kerosene was cheaper at the Gulf. On Friday leading refiners were freely offering water white at 9¼ cents a gallon, compared with 9⅝ cents a gallon the previous week. Export buying was disappointing. There was an inquiry for 50,000 barrels of U. S. Motor gasoline and prime and water white kerosene for February shipment to the United Kingdom but an order was not placed. Prime white kerosene was quoted at 8 cents.

Cased kerosene demand was slightly better. An Independent sold 25,000 cases of prime and water white kerosene for February shipment presumably to South America and a Standard company booked 20,000 cases of prime and water white for January shipment to the Levant. Prime white was quoted at $1.75 a case and water white at $1.85 a case, in cargo lots.

Domestic Kerosene

The domestic demand for kerosene was still fairly good. New York harbor refiners were still offering water white at 9¾ cents a gallon at the refineries and 10¾ cents a gallon in tank cars delivered to the trade. Prime white was quoted ¼-cent a gallon below these prices. Gulf refiners were quoting water white at 9¼ cents a gallon and prime white at 8 cents a gallon. Jobbing demand for kerosene was routine.

Lubricants—New York

Export demand for lubricating oils was more spirited. British and French buyers are buying more bright stocks, but most orders are for 500 barrels or less. Export demand for Pennsylvania cylinder oils is more spirited. Paraffin oils are quiet and unchanged. Black oil is marking time.

Lubricants—Gulf Ports

Zero cold test oils are steady. Consumption is heavy and refiners report a good, steady domestic demand. Foreign buyers are not active. A French buyer was negotiating for 40,000 barrels of assorted lubricants for January-February shipment but whether this was booked or not was not made known. As a rule refiners are more confident of the outlook and are less inclined to shade prices. Domestic consumption is heavier than expected.

Bunker Oil—New York

New York harbor refiners reported a more spirited inquiry for bunker oil. Shipments were mainly against old orders. Grade C was firm at $1.75 a barrel, refinery, and $1.81½ a barrel f.a.s. New York harbor. Diesel oil consumption is steady, and the price is still quoted at $2.40 a barrel f.o.b. refinery.

Bunker Oil—Gulf Ports

Demand for bunker oil for bunkering was more active and the market was firmly held at $1.65 a barrel f.o.b. New Orleans. No cargoes were offered and consequently prices were nominal at $1.53 to $1.55 a barrel. Grade C bunker oil at Tampico was firm at $1.55 a barrel, f.o.b. taxes included, but no cargoes were offered. Heavy Panuco crude oil was nominally quoted at $1.30 a barrel f.o.b. Tampico, taxes to be added.

Wax Market—New York

Foreign inquiry for white crude scale wax continued to be heavy and business was slightly larger than in the previous week. Prices were steady. Fully refined waxes, however, were dull. Stocks are in excess of current needs. Foreign buyers were content to buy only as required. Match waxes were steady at unchanged prices. Semi-refined wax was in better demand.

Wax Market—Gulf Ports

White crude scale wax was in better demand than in the preceding week and prices were a trifle firmer. Sellers were asking 4.40 cents a pound for 124-126 A.m.p. white crude scale wax in barrels. Semi-refined 124-126 A.m.p. was quoted at 4.45 cents. Foreign orders were for 25 tons or less for nearby shipment to Spain, the United Kingdom and France. Fully refined waxes have been barely steady. Domestic demand has been disappointing. Saturday's final prices were: 123-125 fully refined 5⅛ cents; 125-127, 5¼ cents; 128-130, 5⅜ cents; 133-135, 5¾ cents and 135-137, 6 cents.

Gas Oil—New York

Domestic demand for gas oil was better. Most orders were for immediate delivery. Stocks at the refineries are still fairly large and 36-40 was quoted at 6¼ cents a gallon while 28-34 was held at 5¾ cents a gallon. Export demand

for gas oil failed to change. Furnace oil consumption is showing the usual spurt for the season and refiners were asking 7½ cents a gallon, refinery, although it was persistently rumored one refiner was selling at 6½ cents a gallon.

Gas Oil—Gulf Ports

An Independent refiner was reported to have sold a cargo of 40,000 barrels of translucent gas oil for nearby shipment to France but confirmation was lacking. Foreign buyers are more interested in the gas oil market, although slow in placing orders. Domestic demand was slightly more spirited. The 32 plus dark was available at 4⅞ cents a gallon while translucent was held at 5 cents and straw color at 5⅛ to 5¼ cents a gallon.

Petrolatums

Snow white petrolatum was slightly easier than in the preceding week. Large buyers were content with purchasing as needed and as stocks are large refiners appeared to be more disposed to shade prices. Export demand was lighter. Lily white was quiet and easy. The medicinal oils were steady but less active than in the preceding week.

MOTOR BENZOL MORE ACTIVE

NEW YORK, Jan. 17.—Demand for motor benzol was a little more spirited last week but the majority of the inquiries were for spring deliveries and the bulk of shipments was against standing contracts. Production is holding up well and leading marketers are still asking 23 cents a gallon for spot motor benzol in tank cars at the ovens although little is available for prompt shipment.

Export demand for motor benzol has improved and producers do not look for a decline in price. Ninety per cent and pure benzol are in good demand at unchanged prices. Stocks on hand are moderate.

EASTERN AND CENTRAL KENTUCKY MARKETS

ASHLAND and LEXINGTON, Jan. 17.—Demand for all products in eastern Kentucky refinery market is good, except for lower gravity gasolines. Prices are steady.

Gasoline demand in central Kentucky market was sluggish during the past week and the gasoline market has been unsettled following the Standard of Indiana reduction. Kerosene, gas and fuel oil demand was steady over the previous week. Prices are unchanged.

Quotations on Jan. 17 were:

	Eastern	Central
58-60 gasoline	11¾	11
60-62 gasoline	12¼	
64-66 gasoline	12¾	
68-70 gasoline	13½	
41-43 w.w. kerosene	8	8¼
36-38 distillate	6½	
34-36 gas oil	6¼	6
24-26 fuel oil	4⅞	
23-25 fuel oil		5
14-16 fuel oil	4½	

Complete Export Markets

New York Export Market

GASOLINE	Jan. 17	Jan. 10
U. S. Motor Tank cars Ref...	12 -12½	12 -12½
U. S. Motor cases	27.90	-27.90
California grade U. S. Motor		
F. O. B. N. Y. Cargoes	11¼-11¾	11¼-11
KEROSENE		
43-43-150W.W.Tank cars Ref.	09¾	-09¾
43-45-150W.W.Cases	19.65	-19.65
42-44-110S.W.Cases	19.15	-19.15
GAS OIL		
36-40, Bulk Refinery	-06¼	-06¼
28-34, Bulk Refinery	-05¾	-05¾
MEXICAN BUNKER OIL		
Grade C, f. o. b. ref. Bulk	-1.75	-1.75
Diesel Oil f. o. b. ref. Bulk	-2.40	-2.40

LUBRICATING OILS

The following prices are cooperage basis f. o. b. New York, products being manufactured by inland refineries.

CYLINDER OILS (Bbls.)

1 inch Immersion Test; All Penna. Products

Filtered D 600	34½	-34½
Filtered E 600–Warren	29	-29
Unfiltered 600 s. r.	19½	-19½
Unfiltered 650 s. r.	24	-23
600 Fash s. r.	27½	-27
630 Flash	38	-38

RED PARAFFIN (Bbls.)

(Viscosity at 70)

300 vis. No. 5 color	-19½	-19
250 vis. No. 5 color	-18	-18
475 Viscosity. No. 5 color	-24	-24

NEUTRAL OILS (Bbls.)

(Viscosity at 70)

200 vis. at F.Pale. No. 5 color	-38	-38
180 Pale. No. 5 color	-35	-36
150 Pale. No. 5 color	-32	-33

BLACK OIL (Bbls.)

25-30 cold test	13¾	-13¾
15 cold test	14¼	-14¼

MEDICINAL OILS

(Includes Price of Drums)
(Penna. Stocks)

	Jan. 17	Jan. 10
Domestic 875-885 s. g.	- .85	- .85
Domestic 865-.870 s. g.	.75- .80	.75- .80
Russian 885-.890 s. g. 325-330 vis.	1.00-1.10	1.00-1.10

WAXES

(Penna. Stocks)
(In Cents per Pound, F. A. S. Carload Lots)

WHITE CRUDE SCALE (Shipped in Bbls.)

122-124 A. m. p.	-4¾	-4¾
124-126 A. m. p.	-4.70	-4.70

MATCH

105-108 A. m. p.	.....	.....

FULLY REFINED (Shipped in Burlap Bags)

123-125 A. m. p. Philadelphia.	-05¼	-05½
125-127 A. m. p.	-05¼	-05½
128-130 A. m. p.	-05½	-05¾
130-132 A. m. p.	-05¾	-05⅞
133-135 A. m. p.	-06	-06⅛
135-137 A. m. p.	-06⅛	-06⅛

YELLOW CRUDE SCALE

124-126 A. m. p.	.04½	-04½

PETROLATUMS

(Penna. Stocks)
Per Pound

Dark Green	01¾	01¾
Veterinary	03	03
Light Amber	03¾	03¾
Dark Amber	03¾	03¾
Cream	06	06
Lily White	07⅜	07⅜
Snow White	08⅜	08⅜

Gulf Export Market

GASOLINE
F. O. B. Seaboard
(Shipments of 20,000 Bbls. and over)

	Jan. 17	Jan. 10
U. S. Motor, Bulk	10¾	11⅛-.11¼
60-62 400 e. p. Bulk	11½	11¾-.11⅞
61-63 390 e. p. Bulk	11¾	12 -.12⅛
64-66 375 e. p. Bulk	12¾	13⅛-.13½
U. S. Motor, Cases (cargo lots.	2.15	2.15
64-66 Cases (cargo lots)	2.35	2.35

KEROSENE

Water White, 43-45 bulk	09¼	-09⅝
Prime White, 41-43 Bulk	08	-08
Water White, cases (cargo lots)	1.85	1.85
Prime White, cases (cargo lots)	1.75	1.75

DOMESTIC GAS AND BUNKER OIL

26-28, gravity, Bulk*	05	05 -05⅛
32 plus, bulk, Dark	04¾	-04¾
Grade C, Bunker oil	1.65	-1.60
Cargoes	1.55	nominal

*Translucent through neck of a 4 oz. bottle.

MEXICAN CRUDE AND BUNKER OILS
F. O. B. Steamer Tampico

Heavy, Panuco crude Taxes to be added	nominal	-1.30
Grade C, Bunker oil Taxes paid cargoes	nominal	nominal
Grade C, Bunker oil, F. O. B. Tampico, For Bunkering Purposes, taxes paid	1.55	-1.55

SOUTH TEXAS
(Viscosity at 100° F; cold test 0)
(Tanker, F. O. B. Houston)

*LUBRICATING OILS	Jan. 17	Jan. 10
100 Vis. No. 2 Unfiltered Pale	08	08¼
150 Vis. No. 2½ Unfiltered Pale	10	10¼
200 Vis. No. 3 Unfiltered Pale	10½	11
300 Vis. No. 3 Unfiltered Pale	12	12¼
500 Vis. No. 3½ Unfiltered Pale	14	14
200 Vis. No. 5½ Red Oil	09¼	10
300 Vis. No. 5½ Red Oil	10½	11
500 Vis. No. 6 Red Oil	12	12

*These prices are entirely nominal owing to wide fluctuations.

Pacific Export Market

(Cargo lots quotations at seaboard, Los Angles Gravity test on A. P. I. scale)

	Jan. 17	Jan. 10
Gasoline, U. S. Motor— 54°-56°	8½- 9	08½- 9
Gasoline, U. S. Motor— blends and special cuts	9¼-10	9¼-10
Gas Oil, 30°—34° per bbl.	$1.22½-1.30	1.30-1.35
Diesel Oil, 27°—plus per bbl.	$1.00-1.15	1.00-1.15
Bunker Oil, 14°—18° bbls.	$ .80-1.00	.80-1.00
Fuel Oil, 14°—18° per bbl.	$ .80-1.00	.80-1.00
Kerosene, W. W. 38°—40° per gal., 125-150 flash test	.05½-06	.05½- .06
Cased Goods		
Gasoline, U. S. Motor	$2.25	-2.25
Kerosene, W. W. 38°—40° per case, 125-150 flash	$1.45-1.55	$1.45-1.55

N. Y. Domestic Market

The following light oil, gas and fuel oil prices are F. O. B. New York refineries, being products made from Domestic (including California) and Mexican Crudes.

	Jan. 17	Jan. 10
U. S. Motor Gasoline, Tank Cars Delivered greater N.Y.	13 -13½	13 -13½
U. S. Motor Gasoline, Tank Cars Bayonne	12 -12½	12 -12½
U. S. Motor Tank Cars, *Atlantic Seaboard Terminals.	12 -12½	12 -12½
Kerosene, 44 150 W. W. Tank Cars de'd greater N.Y.	-10¾	-10¾
Grade C Bunker f.o.b. N.Y. Ref	-1.75	-1.75
Diesel Oil f.o.b. Refinery	2.40	2.40
Gas Oil, 36-40, Bulk Refinery..	-06¼	-06¼
Gas Oil, 28-34, Bulk Refinery..	-05¾	-05¾
Furnace Oil, 38-42, Bulk, Refinery	-07½	-08

*New York, Philadelphia, Portsmouth, Va., Charleston, S. C.

Crude Oil Prices, as Posted by Major

EASTERN FIELDS

(Posted by Joseph Seep Purchasing Agency)

Penna. Grade Oil in New York Transit Lines (Alleghany, N. Y. District)	$3.40
Bradford District Oil in National Transit Lines (Bradford District)	3.40
Penna. Grade Oil in National Transit Lines (Other Pennsylvania)	3.30
Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania)	3.30
Penna. Grade Oil in Eureka Pipe Lines (West Virginia)	3.25
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O. district)	3.10
Keister Grade in National Transit Lines (Butler Co.)	1.80
Cabell Grade in Eureka Pipe Lines (West Virginia)	2.10
Corning Grade in Buckeye Pipe Lines (Ohio)	2.25
Corning, O. heavy grade	2.15
*Somerset Medium in Cumberland Pipe Lines (Kentucky)	2.20
*Somerset Light in Cumberland Pipe Lines (Kentucky)	2.35
Ragland Grade in Cumberland Pipe Lines (Kentucky)	.95

*Somerset oil run prior to Oct. 1, 1922, takes price of 6 cents lower than above quotations.

(Posted by Stoll Oil Refining Co.)

Oil City Ky. oil in Stoll lines	$2.35

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.

Wooster	$2.25	Plymouth	$1.63
Lima	2.21	WesternKentucky	1.83
Waterloo	1.35	*Canadian Petrolia	2.61
Indiana	1.98	*Oil Springs	2.68
Princeton	2.10	*Posted by Imperial Oil Ltd.	
Illinois	2.10		

OKLAHOMA, KANSAS And NORTH TEXAS

Prices of Prairie Oil & Gas Co.
(In Oklahoma, Kansas, North and East Central Texas)

Effective Nov 17, 1926.

28-28.9	$1.50	34-34.9	$1.80
29-29.9	1.55	35-35.9	1.85
30-30.9	1.60	36-36.9	1.90
31-31.9	1.65	37-37.9	1.95
32-32.9	1.70	38-38.9	2.00
33-33.9	1.75	39-39.9	2.05
40-40.9	$2.10	47-47.9	$2.45
41-41.9	2.15	48-48.9	2.50
42-42.9	2.20	49-49.9	2.55
43-43.9	2.25	50-50.9	2.60
44-44.9	2.30	51-51.9	2.65
45-45.9	2.35	52 and above	2.70
46-46.9	2.40		

Above schedule met by Sinclair and Gulf on Nov. 17.

Humble Oil & Refining Co. Prices
(Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Moran and Nocona crudes all in Texas.)

On Nov. 1, Humble first posted the price schedule adopted by Prairie on Nov. 17, except that Humble is paying 5c less for each degree of gravity on oil below 28°.

Mirando, Tex	$1.25

The Texas Co. posted same gravity and price schedule in Oklahoma, North, North Central and Central Texas on Nov. 5 as Humble, excepting it is paying $1.40 for all oil below 28° gravity in Texas fields.

Magnolia Petroleum Co.
(In Oklahoma, Kansas and North and East Central Texas)

Same grades and prices as posted by Prairie excepting that Magnolia is paying $1.30 for all oil below 28° gravity, effective Nov. 2.

Corsicana heavy	$1.25
Iatan Tex	1.50

Carter Oil Co.
(Oklahoma and Kansas)

On Nov. 2, Carter posted same gravity and price schedule as Prairie is now maintaining.

PANHANDLE, TEXAS

Humble Oil & Refining Co.

Hutchinson, and Carson Counties $1.25

Gray County:		Wheeler County:	
28-28.9	$1.00	28-28.9	$ .90
29-29.9	1.05	29-29.9	.95
30-30.9	1.10	30-30.9	1.00
31-31.9	1.15	31-31.9	1.05
32-32.9	1.20	32-32.9	1.10
33-33.9	1.25	33-33.9	1.15
34-34.9	1.30	34-34.9	1.20
35-35.9	1.35	35-35.9	1.25
36-36.9	1.40	36-36.9	1.30
37-37.9	1.45	37-37.9	1.35
38-38.9	1.50	38-38.9	1.40
39-39.9	1.55	39-39.9	1.45
40-40.9	1.60	40-40.9	1.50
41-41.9	1.65	41-41.9	1.55
42-42.9	1.70	42-42.9	1.60
43-43.9	1.75	43-43.9	1.65
44 and above	1.80	44 and above	1.70

Magnolia Petroleum Co. posted flat price of $1.25 for all Panhandle Crude on Sept. 22, and Kay County Gas Co. on Oct. 4.

WEST TEXAS

(Crane, Upton and Crockett Counties)
Humble Oil & Refg. and Kay County Gas Co.

Below 26	$ .80	31-31.9	$1.10
26-26.9	.85	32-32.9	1.15
27-27.9	.90	33-33.9	1.20
28-28.9	.95	34-34.9	1.25
29-29.9	1.00	35-35.9	1.30
30-30.9	1.05	36 and above	1.35

NORTH LOUISIANA—ARKANSAS FIELDS

***Prices of Standard Oil Co. of Louisiana**

Caddo, Homer, Haynesville, Bull Bayou, El Dorado, Crichton and De Soto
Effective Nov. 4

Below 28	$1.40	40-40.9	$2.10
28-28.9	1.50	41-41.9	2.15
29-29.9	1.55	42-42.9	2.20
30-30.9	1.60	43-43.9	2.25
31-31.9	1.65	44-44.9	2.30
32-32.9	1.70	45-45.9	2.35
33-33.9	1.75	46-46.9	2.40
34-34.9	1.80	47-47.9	2.45
35-35.9	1.85	48-48.9	2.50
36-36.9	1.90	49-49.9	2.55
37-37.9	1.95	50-50.9	2.60
38-38.9	2.00	51-51.9	2.65
39-39.9	2 05	52-and above	2.70
Smackover, below 24			$1.10
" 24-24.9			1.35
" 25-25.9			1.40
" 26-26.9			1.45
" 27 and above			1.50
Bellevue			1.40
Cotton Valley			1.20
**Urania, La			1.10
†Calion (East El Dorado)			.95

*Gulf and La. Oil Refg. Corp. met S. O. La. prices on Nov. 4 and The Texas Co. and Magnolia Pet met on Nov. 5.

**Posted by Louisiana Oil Refining Corp.

†Posted by Gulf

STEPHENS, ARKANSAS

Posted by Atlantic Oil Producing Co. and Louisiana Oil Refining Corp.

Below 28	$1.30	29-29.9	1.45
28-28.9	1.40	30 and above	1.50

GULF COASTAL and SPINDLETOP

Posted by Humble Oil & Refining Co.

Grades A	$1.40	29-29.9	$1.65
Grades B:		30-30.9	1.70
Below 25	1.40	31-31.9	1.75
25-25.9	1.45	32-32.9	1.80
26-26.9	1.50	33-33.9	1.85
27-27.9	1.55	34-34.9	1.90
28-28.9	1.60	35 and above	1.95

Fields classified as A and B are Goose Creek, Hull, Liberty, West Columbia. Orange, Boling and Pierce Junction. All other fields are Grades A only.

Magnolia Petroleum is paying same prices in Spindletop as Humble, except that its top grade 31-31.9 at $1.75, effective Nov. 16.

California Fuel Oil Is Moving Well

LOS ANGELES, Jan. 15.—Fuel oil is moving at a fair pace from Los Angeles harbor, making for a better market later, but the present market is only steady. Quotations remain 85 to 90 cents, with the Standard holding for $1. The Japanese navy contracted early this month for fuel oil over a period at a price reported to be a fraction under 80 cents. This indicates that fuel oil can still be bought at 80 cents by shopping, but no large quantity could be bought at such a price.

Gas oil is in fair demand for shipment, as some of the large eastern gas companies are seeking at least part of their needs in California. Quotations on 30-34 gas oil range from $1.22½ to $1.30 a barrel. Most of the stuff moving is at about $1.25, although some is bringing $1.30. Two large gas companies in southern California announced this week they would furnish their customers with natural gas only late in the month, instead of mixing natural gas with the manufactured article, as had been their practice.

There has been no change in gasoline quotations. A rumor was current in Los Angeles this week that major companies in California planned to raise the retail price of gasoline in California 1 or 2 cents late in January, but those who study the market situation closely feel that there is nothing to the rumor.

The natural gasoline market is steady at 12 to 12½ cents a gallon, with indications that spring demand will bring about a stiff market, regardless of the increased production of the product in California.

Little of Kerosene Is Moving

IN the week ended Jan. 8, 18 tankers departed from Los Angeles Harbor for Pacific foreign, Atlantic foreign and Atlantic domestic ports. Thirteen tankers carried 831,372 barrels of fuel oil, of which 260,528 barrels went to Atlantic domestic. Only two tankers of crude, 139,978 barrels, left. One tanker of 75,140 barrels of gas oil and 94,612 barrels of gasoline were shipped to New York. Hongkong drew 87,389 barrels of kerosene.

Crude Price Changes

OIL CITY, Jan. 15.—On Jan. 14 Joseph Seep Purchasing Agency advanced prices of all Pennsylvania grade crude 25 cents per barrel at the well, except Macksburg, O., district crude in Buckeye lines which was advanced 30 cents, and except Keister grade, which was unchanged. Last previous change was 25 cent reduction on Nov. 18, 1926.

New prices are: Bradford-Alleghany district crude in New York and National Transit lines, $3.40; other Pennsylvania crude in National Transit and Southwest Pennsylvania pipe lines, $3.30; Pennsylvania crude in West Virginia (Eureka lines), $3.25; and Macksburg, O. district crude in Buckeye lines, $3.10.

SYRACUSE JOBBER BUYS

SYRACUSE, N. Y., Jan. 15.—Alfred M. Cady, treasurer and general manager of the Crown Oil Co., Inc., here, has purchased the Premier Gasoline Co. Inc., at 917 Wolf St., Syracuse. Five service stations here are operated by the company and gasoline, motor oil, fuel and furnace oils, kerosene, industrial oils and greases are handled.

Purchasers, in All Fields (in Effect, Jan. 17, 1927)

GULF COASTAL and SPINDLETOP
Prices of The Texas Co.

Grades A	$1.40	*Grades B	$1.40
‡Grades B (light crude):			
35-35.9	$1.95	38-38.9	$2.10
36-36.9	2.00	39-39.9	2.15
37-37.9	2.05	40 and above	2.20

*Grades B include all heavy crudes which do not meet tests for Grades A or for Gulf Coast light crude.

‡The Texas Co.'s gravity and price schedule on oil below 35° is same as Humble's postings on Grades B.

ROCKY MOUNTAIN FIELDS
Prices of Ohio Oil Co. and Midwest Refining Co

‡Salt Creek	29-29.9		$1.53
" "	30-30.9		1.60
" "	31-31.9		1.65
" "	32-32.9		1.70
" "	33-33.9		1.75
" "	34-34.9		1.80
" "	35-35.9		1.85
" "	36-36.9		1.90
" "	37 and above		1.95
Elk Basin			2.00
Grass Creek light			2.00
Big Muddy			$1.85
Lance Creek			2.00
Rock Creek			1.85
Mule Creek			1.45
Rex Lake			1.25
‡Osage			2.00
‡Cat Creek, Mont			2.00
Sunburst, Mont			1.35
‡Hogback, N. Mex			2.45
Artesia, N. Mex			1.65

‡Posted by Midwest Refining Co. Midwest also buys Grass Creek light, and Elk Basin.

The Texas Co. buys Salt Creek and Big Muddy crude.

CALIFORNIA
Standard Oil Co. of California

Gravity	Signal Hill Huntington Beach	Inglewood Torrance	Whittier La Habra	Newhall, McKittrick, Kern River	Olinda-Brea Canon, Richfield	Athens-Rosecrans Dominguez	Monte-bello	Coyote Hills	Santa Fe Springs	Midway Sunset Elk Hills
14-14.9	$ .85	$ .85	$ .83	$ .75	$ .85	.....	$ .85	$ .85	.....	$ 75
15-15.9	.87	.87	85	75	.87	.....	.85	.85	.....	.75
16-16.9	.90	.90	85	75	.90	.....	.85	.85	.....	.75
17-17.9	.94	.94	85	75	.94	.....	.85	.85	.....	.75
18-18.9	.98	.98	86	75	.98	.....	86	.86	.....	.75
19-19.9	1 04	1.04	87	75	1.04	.....	87	.87	.....	.75
20-20.9	1.10	1.10	89	.....	1.10	.....	89	.90	.....	.82
21-21.9	1.16	1.16	91	.....	1.16	.....	91	.98	.....	.90
22-22.9	1.22	1.22	94	.....	1.22	.....	.94	1.06	.....	1.00
23-23.9	1.28	1.28	.....	.....	1.28	.....	.97	1.14	.....	1.11
24-24.9	1.34	1.34	.....	.....	1.34	$1.54	1.01	1.22	$1 02	1.22
25-25.9	1.40	1.40	.....	.....	1.40	1.40	1.05	1.30	1.08	1.33
26-26.9	1.46	1.46	.....	.....	1 46	1 46	1 09	1 38	1 16	1 44
27-27.9	1.52	1.52	.....	.....	1.52	1.52	1.13	1.46	1.24	1.55
28-28.9	1.58	1.58	.....	.....	1.58	1.58	1.17	1.54	1.32	1.66
29-29.9	1.64	.....	.....	.....	1.64	1.64	1.21	1.62	1.40	1.77
30-30.9	1.70	.....	.....	.....	1.70	1.70	1.25	1.70	1.48	1.88
31-31.9	1.76	.....	.....	.....	.....	1.76	.....	.....	1.60	1 99
32-32.9	1.84	.....	.....	.....	.....	1.84	.....	.....	1.72	2.10
33-33.9	.....	.....	.....	.....	.....	1.92	.....	.....	1.84	2.21
34-34.9	.....	.....	.....	.....	.....	2.00	.....	.....	1.96	.....
35-35.9	.....	.....	.....	.....	.....	2.08	.....	.....	2.08	.....
36-36.9	.....	.....	.....	.....	.....	2.16	.....	.....	2.16	.....
37-37.9	.....	.....	.....	.....	.....	2.24	.....	.....	2.24	.....
38-38.9	.....	.....	.....	.....	.....	2.34	.....	.....	2.34	.....
39-39.9	.....	.....	.....	.....	.....	2.44	.....	.....	2.44	.....
40-40.9	.....	.....	.....	.....	.....	2.54	.....	.....	.....	.....
41-41.9	.....	.....	.....	.....	.....	2.64	.....	.....	.....	.....
42-42.9	.....	.....	.....	.....	.....	2.74	.....	.....	.....	.....

Santa Maria and Ventura Posted by Union Oil Co.

Gravity	Lost Hills	Coalinga	Wheeler Ridge	Santa Maria	Ventura
14-14.9	$ 75	$ .75	$ 75	$ 85	$ .85
15-15.9	75	75	75	85	85
16-16.9	75	75	75	85	85
17-17.9	75	75	75	85	85
18-18.9	75	75	75	85	85
19-19.9	75	75	75	85	85
20-20.9	.82	79	.78	.90	.90
21-21.9	.90	.86	81	97	97
22-22.9	1 00	93	85	1.04	1 04
23-23.9	1.11	1.00	.89	1 11	1.11
24-24.9	1.22	1.07	.93	1.18	1.18
25-25.9	1.33	1.14	97	1.25	1.25
26-26.9	1.44	1.21	1.01	1 32	1.32
27-27.9	1.55	1.28	1.05	1.39	1.39
28-28.9	1.66	1.35	.....	1.46	1.46
29-29.9	1.77	1.42	.....	1.53	1.53
30-30.9	1.88	1.49	.....	1.60	1.60
31-31.9	1.99	1.56	.....	.....	1.67
32-32.9	2.10	1.63	.....	.....	1.73
33-33.9	2.21	1.70	.....	.....	1.79
34-34.9	2.32	1.77	.....	.....	1.85
35-35.9	.....	1.84	.....	.....	1.92
36-36.9	.....	.....	.....	.....	.....
37-37.9	.....	.....	.....	.....	.....
38-38.9	.....	.....	.....	.....	.....
39-39.9	.....	.....	.....	.....	.....
40-40.9	.....	.....	.....	.....	.....
41-41.9	.....	.....	.....	.....	.....
42-42.9	.....	.....	.....	.....	.....

*Union Oil Co. also purchases Long Beach Crude and is maintaining the same gravity and price schedule in that field as the Standard maintains in Signal Hill and Huntington Beach fields. The Union also buys and pays the same prices as the Standard in the Rosecrans-Dominguez fields, on gravities ranging from 14 degrees to and including 24.9 degrees and in Santa Fe Springs, on gravities ranging from 20 to and including 23.9 degrees.

REFINERS' and COMPOUNDERS' SUPPLIES

Following are the average market prices for the week on materials used by refiners and compounders f. o. b. shipping point as effective this date.

Refiners' Supplies

	Jan. 17	Jan. 10
Soda Ash light 58⅓ bags.cwt.	$1.32½	$1.32½
Silicate of Soda 60 deg. drums.....cwt	$1.65	$1.65
Sal Soda wks.....90-	1.10	.90- 1.10
Caustic Soda 76% solid..cwt.	3.00	3.00
Chloride of Lime.....cwt. works	2.00	2.00
Sulphuric Acid 60 deg. tank cars f. o. b. shipping point.....per ton	10.50-11.00	10.50-11.00
Liquid Chlorine tank cars works.....lb.	.04	04

Compounders' Supplies (Open Market)

Vegetable Oils—		
Linseed carloads spot.....lb.	10.3	10.2
January	10.3	10.2
Tanks, spot	09.5	09.4
*Soya Bean Tanks, Coast lb.	09½	09½
Castor Oil—		
No. 1 Carlots, Bbls	.18½	.18½
No. 3 Carlots, Bbls	.13	.13
Animal Oils—		
English Degras	.05½	.05½
Domestic Degras, bbls., carloads.....lb.	.04½	.04½
*Horse.....lb.	.08	.08
Oleic Acid—		
Dist. Bbls.....lb.	.09½-.09¾	.09½-.09¾
Saponified Bbls.....lb.	09¾-.10	.09¾-.10
Lard Oils—		
Prime		
Winter Strained, to 1⅓ ffa.	.40/45c.t.lb.	.14⅞ .15
Extra Winter Strained, 2 to 4½ ffa.	.40-45c.t.lb.	.13¾ .13¾
Extra..... 4 to 5 ffa.	.40-45c.t.lb.	.12¾ .12¾
Extra No.1. 7 to 10 ffa.	.40-50c.t.lb.	.10¾ .10¼
No 1.....15 to 18 ffa.	.40 45c.t.lb.	.10½ .10
No. 2.....22 to 23 ffa.	.40-45c.t.lb.	.10 .09¾
Prime Edible Tallow under 1⅞ ffa.		
40-45c.t.N.Y.....lb	.08¼	.08¼
Tallow acidless.....lb.	.10¼	.10¼
Lard Stearine.....lb	.16	.16
Oleo Stearine.....lb.	.09	.09¾
Neatsfoot Oil—		
Pure.....bbls.-lb.	.12¾	.12¾
Extra.....do lb.	.10¾	.10¼
No. 1.....bbls.-lb	.10½	.10
Cold pressed.....lb.	15¾	15¼
Fish Oils—		
Menhaden Oil		
Light pressed.....gal.	.62	.62
White.....gal.	.67	.67
Yellow bleached.....gal.	.64	.64
*Herring tank cars coast.....gal.	nominal	.42
Whale, extra winter bleached.....gal.	.82	.82
Seal.....gal		nominal
Naval Stores—		
Turpentine, N. Y.....gal.	.80½	.86
Turpentine†.....gal.	.74	.80½
Rosin, B. N. Y.....bbl.	12.05	12.25
Rosin, F. N. Y.....bbl.	12.10	12.85
Rosin, B†.....bbl	10.45	10.50
Rosin, F†.....bbl	10.50	11.30
Rosin Oil 1st run.....gal.	.67	.67
Rosin Oil 2nd run.....gal.	.72	.72
Pine Tar—		
Kiln Burnt.....bbl	16.00	16.00
Retrt.....bbl.	16.00	16.00
Alcohol—Denatured— Formula 5		
Bbls.....gal.	.42	.42
Drums.....gal	.35	.35

†Savannah, Ga. market.
*Nominal.

Bright Spots in Year's Movement of Curb Shares

CLEVELAND, Jan. 15

SEVERAL bright spots appeared among the Independent oil stocks traded in the New York Curb Market in 1926. Several made excellent net gains. There were relatively more bright spots among the Independent stocks in the Curb market than among the Standard Oil stocks in this market and the Standard and Independent stocks on the New York Stock Exchange, whose prices were reviewed in National Petroleum News one week ago.

Excellent gains were made by Cities Service issues, British-American Oil, Margay of California, National Fuel & Gas, Red Banks Oil, Savoy Oil, Shreveport-El Dorado Pipe Line, Tidal Osage, Venezuelan Petroleum and Wilcox Oil & Gas. Against the Curb stocks also were several rather heavy losses in price.

Oil bonds had a good year. Gains were made in market values of the leading issues listed on the New York Stock Exchange and those dealt in on the Curb market. The most notable gain was made in Cities Service 7s, Series B, which are convertible into 80 per cent par value preferred stock and 20 per cent par value common stock. Stocks to which they may be converted, carry accumulated dividends from Jan. 1, 1918, to date of conversion.

The oil stocks both Standard and Independent failed in 1926 to keep abreast the movement of other industrial shares. It would not be a rash assertion to predict that when 1926 earnings statements are published market prices of a good many oil stocks will turn up even though other industrial stocks may be undergoing a downward movement.

Ranges of Prices of Independent Oil Stocks on N. Y. Curb Market in 1926

Stocks	High	Month	Low	Month	Last	Net Ch'ge
Am Controlled Oil E	6¾	Feb.	45	Oct.	1⅜	— 4½
Am Maracaibo	14½	Jan.	4	Oct.	6¾	— ¾
Anglo Persian Oil	27⅛	Sept.	22½	July	27⅛	.....
Argo Oil	3	Aug.	.75	Dec.	1	— 2½
Akransas Nat Gas	8	Nov.	5¾	June	7¼	.....
Beacon Oil	20⅜	Dec.	14⅛	Mar.	20⅜	.....
Brit-Amer Oil	83½	Dec.	47⅜	Apr.	83½	+36¼
Brit-Amer Oil new	21½	Dec.	21½	Dec.	21½	.....
Carib Synd	28	Oct.	9¼	Mar.	24¼	+14
Cities Service new	51	Dec.	37½	Feb.	50¾	+11¼
Cities Service Bankers	25	Dec.	19	Jan.	25¼	+ 6¼
Cities Service pfd	92½	Nov.	82¾	July	91¾	+ 7¾
Cities Service B pfd	8½	Dec.	7⅜	Feb.	8¼	+ ¾
Cities Service BB pfd	83	Nov.	74	Mar.	8 5/8	+ 7⅝
Colombian Syndicate	3½	Dec.	1¾	Oct.	2½	— 1/16
Consolidated Royalty	10½	Dec.	8⅛	Mar.	9	— 1
Creole Syn	16	Sept.	10	Mar.	13⅜	— 1⅝
Crown Central	7⅜	Jan.	1⅛	Mar.	3⅛	— 2⅛
Crystal Oil Ref	15½	Oct.	11	Nov.	11	.....
Crystal Oil Ref pfd	53¾	Sept.	50	Dec.	51½	.....
Derby Oil	4¾	Dec.	1¾	May	1¾	— ¾
Derby Oil pfd	19¾	Aug.	13	Dec.	13	+ 2½
Gibson Oil	7½	May	2¼	Oct.	3⅛	— 2½
Gilliland Oil ctfs	2	Jan.	.63	May	1⅛	— ⅛
Glenrock Oil	20	May	4	Dec.	5	—12
Gulf Oil	98	Dec.	82	Apr.	96¾	+ 5
Kirby Petroleum	3¾	Dec.	1	Dec.	1⅜	— 1¼
Leonard Oil Dev	12¼	Feb.	5¾	Mar.	8½	— 1¼
Lion Oil	26	Dec.	20	Oct.	24⅞	— ¼
Lone Star Gas	56	Jan.	31	June	44	— 7
Magdalena Synd	2¾	Oct.	2	Nov.	2⅜	.....
Margay Oil	16	June	1⅛	Jan.	12½	+12
Marland of Mexico	3½	Sept.	1½	Nov.	2	— 1½
Marland Oil w i	57	Dec.	50⅛	Sept.	57	.....
Mex Eagle	10½	Feb.	4⅛	Nov.	4⅛	— ⅞
Mex Panuco	5½	Feb.	1⅞	Nov.	3	— ¾
Mexico Oil Corp	56	Dec.	8	Apr.	38	+28

Stocks	High	Month	Low	Month	Last	Net Ch'ge
Mountain & Gulf	1¾	Jan.	1¼	Oct.	1⅜	— ¼
Mountain Prod	26	Jan.	22½	Dec.	25⅛	+ ⅛
National Fuel & Gas	200	Dec.	131	Apr.	200	+66
New Bradford	6¾	Jan.	5	Dec.	5¼	— 1
New Eng Fuel new	11¾	July	2	Mar.	5¾	— ⅜
New Mex & Ariz Land	17	Jan.	9⅛	Apr.	13	— 2
New York Oil	17	Jan.	8	Mar.	10⅜	— 1¼
Nor Cent Texas	14½	Dec.	8⅜	Apr.	11½	.....
Northwest Oil	11	Jan.	3	May	5	+ 2
Oklahoma Nat Gas	33	Dec.	29⅛	Sept.	30¼	+ 2¼
Oklahoma Nat Gas ctfs	21	Nov.	20	Oct.	21	.....
Pandem Oil	10½	Dec.	5⅞	Sept.	7¾	.....
Pantepec Oil	12¼	Oct.	11¾	Dec.	12	.....
Peer Oil	23¾	Feb.	20	Oct.	31	+ 2⅛
Pennok Oil Corp	22¾	Feb.	12	Oct.	14¼	— 8¾
Red Banks	38	May	14⅛	Dec.	25	+ 6½
Reiter Foster	30¼	Aug.	12	Oct.	14¾	— 5¾
Richfield Oil	27½	Sept.	22	Oct.	23	.....
Ryan Cons	7½	Jan.	4½	Oct.	5	— 1¾
Salt Creek Cons	10	Feb.	7½	Nov.	7¾	— 1⅝
Salt Creek Producers	36	Jan.	26⅞	Oct.	31	— 3¾
Sante Fe Oil	4½	May	4	Oct.	4⅛	.....
Savoy Oil	4	Feb.	1	Feb.	4⅜	+ 3¼
Shaffer O & R pr	113	Dec.	109	Nov.	110	.....
Shreveport El Dorado	26½	Oct.	11	Jan.	23¾	+13¾
Tidal Osage	27	Oct.	7⅜	Feb.	21½	+11½
Tidal Osage Non Voting	25¾	Nov.	7⅜	Mar.	21	+11½
Tide Water Associated	27	Apr.	20⅞	Nov.	21¾	.....
Tide Water Assoc pfd	99½	Mar.	93¾	Dec.	93¾	.....
United Oil Associates	56½	Dec.	53½	July	56½	.....
Valvoline Oil pfd	106½	Nov.	106	Oct.	106½	.....
Venezuelan Mex	12¼	Nov.	11½	Dec.	11½	.....
Venezuelan Pet	8	Feb.	4⅛	Jan.	7⅛	+ 2⅞
Warner Quinlan	30⅛	June	23½	Mar.	26	.....
Wilcox	36⅛	June	22	Mar.	28⅝	+ 2⅛
Woodley Pet	9½	Sept.	4⅜	May	7	+ 1⅝

Ranges of Oil Bonds on New York Curb Market in 1926

Bonds	High	Month	Low	Month	Last	Net Ch'ge
Barnsdall Corp. 6s	98	Nov.	88½	Nov.	90	.....
Beacon Oil 6s	103¼	Dec.	101	Dec.	102⅜	.....
Cities Service 6s	98½	Dec.	91⅜	Apr.	98½	+ 5¼
do 7s D	122½	Dec.	101½	Jan.	122½	+21
do 7s B	221	Dec.	178	Jan.	221	+42¾
do 8s E	132	Nov.	109	Jan.	130	+18½
Galena Signal 7s	104	Mar.	80¼	Oct.	92	—10½
Gulf Oil 5s	101¾	Aug.	99⅝	Jan.	100⅝	+ ⅝
do 5½s	101⅝	Jan.	100½	Feb.	100½	— ½
Independent Oil & Gas 6½s	102	Dec.	95½	Mar.	101¼	.....
Oklahoma Nat'l Gas 6½s	101	Dec.	99	Sept.	99¼	.....

Bonds	High	Month	Low	Month	Last	Net Ch'ge
Pan American Pet. 6s	105	July	98¾	Nov.	99⅝	+ 4⅜
Pennok Oil 6s	100	Dec.	100	Dec.	100	.....
Pierce Oil 6½s	104	July	102⅜	Jan.	103	+ ⅝
Richfield Oil 6s	99	Oct.	99	Oct.	99	.....
S. O. New Jersey 5s	102¾	Dec.	101⅝	Nov.	101⅞	.....
do 6½s	107¼	Jan.	104¾	Oct.	104⅛	— 2⅜
S. O. New York 4½s	98	Dec.	97¾	Dec.	97⅞	.....
Tidal Osage 7s	105⅛	Mar.	102¼	Oct.	102½	— 1
Transcontinental Oil 7s	99	July	91	June	97¼	— ¼
United Oil Producers 8s	60	Dec.	30⅛	July	59⅞	+29¾
Valvoline Oil 7s	105	May	103½	Jan.	104½	+ 1

Ranges of Oil Bond Prices on New York Exchange in 1926

Bonds	High	Date	Low	Date	Last	Net Ch'ge
American Republics deb. 6s	100⅝	July 22	98	Jan. 6	99	+1
Associated Oil 6s	103½	Oct. 14	102¼	Mar. 1	102⅞	+ ¼
Atlantic Refining 5s	102¾	May 17	99¾	Aug. 17	101¼	+1⅜
Barnsdall Corp. 6s	101	Feb. 11	96	Oct. 19	99⅛	—6⅛
California Petrol. 6½s	105	July 11	103½	Jan. 30	103½	— ½
do 5½s	100⅞	Dec. 3	99¾	Nov. 30	100¾	.....
Empire Gas & Fuel 7½s	105⅝	Dec. 4	101½	Apr. 24	105½	+3¼
do refunding 7½s	100½	Dec. 3	96½	Aug. 20	99¾	.....
General Asphalt 6s	110	Sept. 7	104¼	May 6	108¾	+4⅝
General Petroleum 5s	102¼	Dec. 3	98⅜	May 4	101	.....
Humble Oil & Ref. 5½s	103	June 2	101¼	Oct. 13	102⅜	+1¼
Mid-Continent Pet. 6½s	105½	Sept. 13	101¼	Mar. 3	104¾	+3⅝
Pan American P. & T. 7s	107	July 19	104¾	Dec. 29	105	.....
do 6s	112⅜	Jan. 3	103⅞	Mar. 31	105	—6¾
Pierce Oil 8s	107⅞	Jan. 18	93¾	Oct. 14	103¾	— ½

Bonds	High	Date	Low	Date	Last	Net Ch'ge
Producers & Refrs. 8s	112¾	Oct. 19	109½	Feb. 8	111	+ ½
do 8s with cvts	114⅝	Oct. 26	110½	Jan. 19	110¾	— ⅛
Simms Petroleum cvt. 6s	101½	Nov. 22	100¾	Nov. 22	101⅞	.....
Sinclair Cons. Oil 7s	99⅝	July 9	93¾	Jan. 4	97½	+4
do 6½s	94⅝	June 24	87	Jan. 5	92½	+5½
do 6s	113¾	Jan. 2	99¼	Oct. 19	100⅞	—10⅝
Sinclair Crude Oil 6s	101½	June 9	100¼	July 20	100¾	+ ⅛
Sinclair Pipe Line 5s	94¾	Sept. 13	87	Jan. 2	92½	+5½
Skelly Oil 6½s	148½	June 28	111⅜	Mar. 30	134	+37⅝
S. O. New Jersey 5s	102	Dec. 21	101½	Dec. 28	101¾	+ ⅛
Superior Oil 7s	100½	Nov. 15	92¼	Jan. 12	100¼	+7¼
Union Oil of Calif. 6s-A	108⅜	Dec. 28	104	Nov. 10	108	+4
do 5s-B	102	June 30	100⅛	Mar. 12	101½	+ ⅞
do 5s-C	99⅜	Dec. 3	95⅛	Mar. 31	98¾	+3⅛

Transactions In Oil Shares on New York Stock Exchange

1925 High	1925 Low	1926 High	1926 Low		Listed Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions week ended Jan. 15 Sales	First	High	Low	Last	Ch'ge
.....	.....	82¼	24½	(sh)	814,800	N.P.	Amerada Corp.	50cQ	Oct. 30, 26	46,200	32¼	36	32⅛	36	+4½
79¾	48	74	59⅞	(sh)	200,000	N.P.	American Republics	.....	.....	1,000	38⅜	38⅝	37½	38	—3
47¾	32	59½	44¾	$	56,000,000	$ 25	Associated Oil	50cQ	Dec. 24, 26	1,200	49½	49½	49½	49½	+ ⅜
117½	95½	128¾	97		50,000,000	100	Atlantic Refining	.....	June 16, 24	1,200	113	115	111⅝	114	+3
117¾	113½	120	115¾		20,000,000	100	do pfd	$1¾Q	Nov. 1, 26	100	117	117	116½	116½	+ ¾
58½	18¼	33½	23¾		25,000,000	25	Barnsdall Corp. A	50cQ	Jan. 3, 27	213,400	29⅛	32¾	29⅛	32⅛	+3⅝
30	16	29½	22½		3,718,275	25	do B	50cQ	Jan. 3, 27	25,500	26¾	30⅛	26¾	29⅜	+2¾
84¾	28¾	38⅛	29¾	$	47,594,950	$ 25	California Petroleum	50cQ	Dec. 1, 26	26,700	31	32⅛	31	32⅛	+1⅜
70	42½	94½	50		28,631,200	100	General Asphalt	.....	.....	39,000	85⅝	87⅜	84⅛	84¼	—1⅜
109	86½	140½	94⅞		7,354,000	100	do pfd	$1¾Q	Dec. 1, 26	600	127½	130	127½	128½	—7½
85	59	72	50¼		25,000,000	100	Houston Oil	.....	.....	2,500	61	64⅜	60⅛	64⅜	+3⅜
41¾	18½	34	19⅝	(sh)	500,000	N.P.	Independent Oil & Gas	25cQ	Jan. 17, 27	14,700	31	32¼	30⅜	32	+1⅝
14¾	5½	13¾	7¾	$	3,288,960	$ 10	Indian Refining	.....	Dec. 15, 20	1,300	8⅝	8⅝	8	8	0
12⅜	6	12½	7½		4,546,490	10	do ctfs	.....	.....	1,000	8¼	8¼	7⅝	8	+ ⅛
110	77	104	90		2,296,400	100	do pfd	.....	Dec. 15, 21	.....	.....	.....	.....	.....	.....
1½	¼	¾	¼		1,644,760	10	Kansas & Gulf	.....	.....	200	¼	¼	¼	¼	0
.....	.....	24½	19⅛	(sh)	4,000,000	N.P.	Lago Oil & Transport	.....	.....	600	21	21	20½	20½	— ½
23¾	13¾	19⅛	12	(sh)	1,184,288	N.P.	Louisiana Oil Refining	.....	.....	41,700	17⅝	18	16⅞	17	— ⅛
.....	.....	97	93	$	4,000,000	$100	do pfd	$1¾Q	Nov. 15, 26	500	96	96	95	96	0
35½	20¾	28⅛	16½	(sh)	330,000	N.P.	Maracaibo Oil	.....	.....	19,200	19½	22	19½	21⅛	+2⅛
60½	32¾	63¾	49¼	(sh)	2,349,763	N.P.	Marland Oil Co.	$1Q	Dec. 31, 26	95,300	57⅛	58¼	57	58	+1
250	225	.....	.....		45,942,800	$100	Mexican Petroleum	$3Q	Jan. 20, 27	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....		12,000,000	100	do pfd	$2Q	Jan. 20, 27	.....	.....	.....	.....	.....	.....
22½	20	13¾	6	(sh)	945,939	N.P.	Mexican Seaboard	.....	Nov. 15, 24	1,100	7¼	7¾	7⅛	7½	+ ¼
58	25¾	37	27½	(sh)	1,557,800	N.P.	Mid-Continent Petroleum	.....	Aug. 1, 25	.....	36⅜	.....	.....	.....	.....
94¾	85	104½	90	$	6,718,000	$100	do pfd	$1¾Q	Dec. 1, 26	.....	104	.....	.....	.....	.....
5¾	⅝	2½	⅝		25,415,540	10	Middle States	.....	July 1, 25	93,700	⅜	⅜	⅜	½	+ ⅛
1½	1½	1¼	½		4,384,680	....	do ctfs	.....	.....	4,400	1¾	2	1¾	1¾	+ ¼
78½	51¾	83¼	1	(sh)	3,500,000	N.P.	Pacific Oil	.....	Jan. 20, 26	1,100	1¾	1¾	1½	1¾	— ⅛
83⅛	59½	76½	56¼	$	48,307,400	$ 50	Pan American P. & T.	$1.50Q	Jan. 20, 27	1,000	62	63	62	62½	— ⅜
84½	60¼	78¾	56¾		91,246,000	50	do B	$1.50Q	Jan. 20, 27	28,100	62½	63¾	62⅜	62⅞	+ ⅛
49¾	37½	46	30	(sh)	400,000	N.P.	Pan American Western B	50cQ	Jan. 30, 27	6,000	37	37⅝	35⅞	36	— ⅜
6¾	2¼	32	4½	(sh)	198,770	N.P.	Panhandle P. & R.	.....	.....	7,500	14¾	17⅞	14¾	17⅞	+3⅛
60½	37	99¾	51	$	2,935,200	$100	do pfd	.....	July 2, 23	200	75⅛	75⅛	75⅛	75⅛	—2⅛
47⅛	36¼	57¾	40	(sh)	2,406,736	N.P.	Phillips Petroleum	75cQ	Jan. 1, 27	83,400	56¾	58¼	56¼	58¼	—1⅞
3½	1¼	1⅞	½	$	29,622,925	$ 25	Pierce Oil Corp.	.....	.....	2,800	⅝	¾	⅝	¾	0
40	20¼	27¼	11¾		15,000,000	100	do pfd	.....	Feb. 1, 22	300	16¾	17	16¾	17	+2
8¾	4½	7	2½	(sh)	2,500,000	N.P.	Pierce Petroleum	.....	.....	8,200	3½	3⅞	3⅜	3½	0
52¾	12½	20¾	11	$	11,467,850	$ 50	Producers & Refiners	.....	Sept. 15, 23	5,900	17	18¾	17	18	+1
47¾	27	41¾	30¾		2,845,350	50	do pfd	.....	May 1, 25	600	37⅛	37⅛	37⅛	37⅛	+ ¼
55¾	25¼	31	25¼		75,959,250	25	Pure Oil Co.	$7½cQ	Dec. 1, 26	80,600	27½	29⅝	27⅝	29½	+1⅝
108½	103	112¾	106		18,000,000	100	do 8% pfd.	$8Q	Jan. 1, 27	300	111⅜	111⅜	111⅜	111⅜	— ⅜
57¾	48¼	57¾	47¾	(sh)	658,082	13.40	Royal Dutch, N. Y. shares	$1.739	Aug. 2, 26	2,800	53⅞	53⅞	52⅛	52⅜	+ ¼
49	39½	48¾	40¾	(sh)	87,685	£2	Shell Transport & T.	96.7c	Jan. 17, 27	200	46⅞	47	46⅞	47	+ ¼
28¾	21¾	30¼	24	(sh)	10,000,000	N.P.	Shell Union Oil	35cQ	Dec. 31, 26	20,600	29¼	29⅞	29⅛	29¾	+ ⅛
106½	99½	114	103	$	18,350,400	$100	do pfd	$1½Q	Nov. 15, 26	1,300	108½	108½	108	108	— ¼
28½	17¾	28¾	15¼		7,208,080	10	Simms Petroleum	50cS.A.	Jan. 5, 27	26,300	20½	21⅜	20⅞	21⅜	+1¼
24¾	17	24¾	16¾	(sh)	4,500,632	N.P.	Sinclair Consolidated	.....	May 31, 24	55,200	19⅝	20⅝	19¾	20½	+ ¾
94½	78¾	99½	90	$	17,528,300	$100	do pfd	$2Q	Nov. 15, 26	400	97½	98¾	97¼	98¾	+1¾
52½	21¾	36¾	26¾		27,393,090	25	Skelly Oil Co.	50cQ	Dec 15, 26	84,700	35⅞	36¼	35¾	36	0
.....	.....	63¾	52¾	(sh)	18,016,434	N.P.	S. O. California	50cQ	Dec. 15, 26	15,300	58⅞	59⅜	58⅛	59⅛	+ ⅜
47½	38¾	46¾	37½		517,064,800	25	S. O New Jersey	25cQ	Dec. 15, 26	104,100	37⅞	39¾	37¾	39½	+1⅝
119	116¾	119¾	115		199,972,900	100	do pfd	$1¾Q	Dec. 15, 26	6,977	115¾	115⅞	115¾	115⅞	+ ⅛
.....	.....	33¾	32½		421,750,400	25	S. O. New York	40cQ	Dec. 15, 26	36,400	32⅝	33⅛	32½	33	+ ⅜
48¾	38¾	41¾	30¼	(sh)	1,171,951	N.P.	Sun Oil	25cQ	Dec. 15, 26	2,500	32	33	32	33	+1
6¾	2	5¾	1	(sh)	1,121,368	N.P.	Superior Oil Corp.	.....	Dec. 20, 20	14,000	4¾	5	4¾	5	+ ⅛
55	42¾	58	48	$	88,092,200	$ 25	The Texas Co.	75cQ	Dec. 30, 26	5,200	56¼	57½	56¼	57⅜	+ ⅜
.....	.....	57¾	53¼		28,590,300	25	The Texas Corp.	75cQ	Jan. 1, 27	40,500	56¼	57½	56¼	57½	+1¼
23¾	10¾	19½	12		8,380,340	10	Texas Pacific Coal & Oil	.....	June 30, 25	18,600	15⅞	16⅜	15½	16⅛	+ ⅛
36¾	30¼	30¾	27	(sh)	2,138,543	N.P.	Tide Water Oil Co.	37½c	Dec. 31, 26	2,200	28	29⅛	28	29⅛	+1⅝
101	99	103	87¾	$	20,705,100	$100	do 5% pfd.	$1.25Q	Nov. 15, 26	800	88¾	89¼	88¾	89	+ ⅛
5¾	3¾	5½	3	(sh)	3,742,029	N.P.	Transcontinental Oil	.....	.....	19,600	4½	4½	4⅛	4⅜	— ⅛
48¾	38	58¾	37½	$	40,668,950	$ 25	Union Oil of California	50cQ	Nov. 10, 26	15,900	56⅛	56½	54⅝	55¼	+ ¾
134	96¾	120	80		24,423,300	100	Union Tank Car Co.	$1¾Q	Dec. 1, 26	1,200	95½	95⅝	95	95	+ ⅜
117¾	113¼	118	113¼		12,000,000	100	do pfd	$1¾Q	Dec. 1, 26	.....	.....	.....	.....	.....	.....
31¾	25½	29¾	25¼	(sh)	490,000	N.P.	White Eagle Oil & Refining	50cQ	Jan. 20, 27	3,500	25¾	27	25¾	26½	+ ¾

*New High †New Low x Ex-Dividend Total Sales 1,343,377

PITTSBURGH STOCK EXCHANGE

1925 High	1925 Low	1926 High	1926 Low	Par Value	Stocks	Transactions Week Ended Jan. 14 Sales	First	High	Low	Last	Ch'ge
.....	.....	8½	6¾	N.P.	Andes Petroleum	.....	.....	.....	.....	.....	.....
8¾	5¾	8½	5¾	$ 10	Arkansas Nat.Gas	3,297	7⅝	7¾	7⅝	7¾	+ ⅛
.....	.....	90¾	79¾	$100	Columbia Gas (w.i.)	197	90¼	91⅛	90¼	91⅛	+1⅛
.....	.....	101¾	95	$100	do pfd w.i	219	101	101⅛	100½	101	0
.....	.....	.....	.....	....	do rts	.....	.....	.....	.....	.....	.....
18	14½	17	12¾	$ 10	Devonian Oil	120	14¼	14¼	14	14¼	— ¼
112¾	106¾	116½	112	$100	Duquesne Lt. 7% pfd.	20	116	113	116	116	— ¾
.....	.....	10	5¾	N.P.	Houston Gulf Gas	600	6⅜	6½	6⅜	6¾	— ⅛
.....	.....	46	39	25	Lone Star Gas Corp.	7,859	44¼	44¾	41	41⅞	—3⅛
37¼	31	47¾	35¾	25	Ohio Fuel Corp	.....	.....	.....	.....	.....	.....
.....	.....	47½	42	....	do ctfs. of deposit	.....	.....	.....	.....	.....	.....
.....	.....	6¾	5	....	Ohio Oil & Gas	.....	.....	.....	.....	.....	.....
34	26	34	21	25	Oklahoma Nat. Gas	.....	.....	.....	.....	.....	.....
.....	.....	21	19¼	....	do ctfs. of deposit	975	20⅝	20⅝	x20¼	20⅜	— ⅛
8¾	5	5¾	3¾	5	Pittsburgh O. & G	375	3¼	3¼	3¼	3¼	0
9¾	6	10	7½	10	Salt Creek Cons	250	7¾	7¾	7⅝	7⅝	— ⅛
18¾	8½	27	8	10	Tidal Osage	4,293	22¾	25¼	22½	25	+2¾
.....	.....	45	40	N.P.	Waverly Oil Wks. "A"	395	42¾	42¾	42	42	— ½

PITTSBURGH CURB MARKET

1925 High	1925 Low	1926 High	1926 Low	Par Value	Stocks	Transactions Week Ended Jan. 14 Sales	First	High	Low	Last	Ch'ge
2½	.60	3¾	2½	$5	Colombia Synd	.....	.....	.....	.....	.....	.....
.60	.15	.20	.06	5	Duquesne Oil	.....	.....	.....	.....	.....	.....
9	5½	22	22	10	Forest Oil	.....	.....	.....	.....	.....	.....
82¾	64	91½	85	25	Gulf Oil Corp	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	....	Herbert Oil	.....	.....	.....	.....	.....	.....
.....	.....	79	79	100	Houston Gulf pfd	.....	.....	.....	.....	.....	.....
12½	3¾	12	7½	N.P.	Leonard Oil & Dvlp	250	9½	9½	9¼	9¾	+1
.....	.....	1⅝	1⅝	N.P.	Mountain & Gulf	.....	.....	.....	.....	.....	.....
.....	.....	30¼	29	....	Oklahoma Gas	110	32	32½	32	32½	+3
.47	.20	2	.15	10	Omar O.&G	9,100	1.75	1.85	1.55	1.85	+ 15
.....	.....	2	1¾	5	Pittsburgh Oil Dev	.....	.....	.....	.....	.....	.....
27½	25	33½	20	10	Plymouth Oil	1,150	27	27	26½	27	0
7	3	7	3	5	States Oil	.....	.....	.....	.....	.....	.....
4	1¾	3½	2	$1	Texon Oil & Land	1,000	2⅞	2⅞	2¾	2¾	0
.....	9	25¾	8	10	TidalOsage(non-voting)	....	.....	.....	.....	.....	.....

*New High †New Low xEx Dividend ‡Ex Rights

NEW YORK BONDS

Week Ending Jan. 14

	High	Low	Last	Ch'ge
Amer. Rep. Deb. 6s	99½	99	99⅛	+ ⅛
Assoc. Oil gold 6s	102⅜	102⅝	102¾	0
Atlantic Refg. deb. 5s	101¾	101½	101¾	0
Barnsdall Corp. sf 6s	104¼	100	104	+4
Barnsdall Corp. 6s ex war	92½	91⅛	92½	+ ¼
Cal. Petrol sf 6½s	104	103½	103½	— ¼
Calif. Pet. Cor. 5½s	102¼	101⅜	102	+1
Empire Gas & Fuel 7½s	107	105¼	107	+1½
EmpireGas & Fuelrfg.7½s	100¾	99¼	100⅜	+ ⅛
Empire Gas & Fuelrfg.7½s reg	104⅞	104⅞	104⅞	0
Empire Gas & Fuelrfg.6½s	100¾	99¼	100⅜	+ ⅛
Gen. Asphalt 6s	108	106½	107⅜	— ⅜
Gen. Petroleum 5s	101¾	101½	101¾	0
Humble Oil & Refg. 5½s	102⅝	102	102¼	— ¼
Mid-Cont. Pet. 6½s	105	104¾	105	+ ⅛
Pan-Amer. P & T 7s	105	105	105	+ ⅜
Pan-Amer. P & T 6s	105	104½	104⅞	+ ⅛
Pierce Oil deb 8s	101⅜	101⅜	101⅜	—1⅜
Prod. & Refnrs. 8s	111½	110¾	111½	+ ⅛
Simms Pet. cvt 6s	104⅜	102¾	104	+2
Sinclair Con. Oil Col. 7s	100¼	98	100¼	+2
Sinclair Con. Oil Col. 6½s	97⅜	93	97¼	+3⅞
Sinclair Con. Oil 6s	101½	101	101⅜	+3¼
Sinclair Crude Oil 6s	100⅞	100⅜	100¾	+1⅜
Sinclair Pipe Line sf 5s	94	92¾	93⅜	+1⅜
Standard Oil N. J. deb. 5s	102⅛	101⅞	101⅞	— ¼
Superior Oil 7s	100½	100	100½	0
Union Oil of Cal. 6s-A	108¾	108½	108¾	0
Union Oil of Cal. 5s-B	102	101½	102	+ ⅛
Union Oil of Cal. 5s-C	99½	99¼	99⅜	+⅛

North Central Texas Oil Co.—Earnings before depreciation and federal taxes for 10 months ended Oct. 31 were $335,183, compared with $324,843 in corresponding time of 1925.

Market Section

Standard Oil Stock Traded in New York

1925 High	1925 Low	1926 High	1926 Low		Outstanding Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions Week Ended Jan. 14 Sales	First	High	Low	Last	Ch'ge
26¾	17¼	21	16⅜	£	4,000,000	£1	Anglo American	60¾cS.A.	May 27, 26	3,800	20¼	21⅜	20⅛	21	+ ¾
.....	.....	20¼	16½		.....	£1	do ctfs non-votg	.....	.....	100	20⅛	20⅛	20⅛	20¼	+1½
.....	.....	19	19		.....	....	do voting ctfs	.....	.....	1,700	20½	20½	19⅝	20¼	+ ⅝
4¼	1⅜	2¼	¾	(sh)	500,000	N.P.	Atlantic Lobos	.....	.....	.....	.....	.....	.....	.....	.....
12⅜	3	5	3⅛	$	10,000,000	$10	do pfd	.....	.....	100	3⅝	3⅝	3⅝	3⅝	3⅝
240	205	301	226		1,000,000	100	Borne Scrymser	$4S.A.	Oct. 15, 26	.....	.....	.....	.....	.....	.....
.....	.....	70	49		.....	....	do new	.....	.....	50	63	63	63	63	—1½
72	58½	59¼	42		10,000,000	50	Buckeye Pipe Line	$1Q	Dec. 15, 26	300	46¼	47	45	47	+ ¾
74	48½	82½	65		3,000,000	25	Chesebrough Mfg	75cQ	Dec. 28, 26	.....	.....	.....	.....	.....	.....
115	110	.....	.....		1,000,000	100	do pfd	$1¾Q	Sept. 30, 26	.....	.....	.....	.....	.....	.....
31½	21⅞	25⅞	17⅝		34,914,280	10	Continental Oil	25cQ	Dec. 15, 26	44,800	22	22⅜	21⅞	22¼	+ ¼
17⅝	10	17	13½		1,500,000	25	Crescent Pipe Line	.....	Sept. 15, 23	.....	.....	.....	.....	.....	.....
156	132	137	102		3,000,000	100	Cumberland Pipe Line	$3Q	Dec. 15, 26	60	108	108	108	108	+1
96	61	63¾	43		5,000,000	100	Eureka Pipe Line	$1Q	Nov. 1, 26	200	48¾	49¼	48¾	49	+2
68⅛	23½	32½	9⅞		16,000,000	100	Galena Signal Oil	.....	June 30, 25	400	10¼	10½	10¼	10½	+ ¼
105	88	94½	85		4,000 000	100	do new pfd	.....	June 30, 26	300	54	56	52½	53½	—1½
114	95	97½	45		2,000,000	100	do old pfd	.....	June 30, 26	460	53	55	52	55	0
95	42¼	68¼	52		72,916,650	25	Humble Oil & Refining	50cQ	Jan. 1, 27	9,800	60¾	61⅞	60¾	61⅛	+ ⅛
154½	127	144½	125¼		20,000,000	100	Illinois Pipe Line	$6S.A.	Dec. 15, 26	650	126	126½	123¾	126½	+ ¼
39¼	27¼	39¾	31½	(sh)	6,491,852	N.P.	Imperial of Canada	25cQ	Dec. 1, 26	12,700	38¼	39⅞	38¼	39¾	+1¾
84	57⅛	70	54¼	$	5,000,000	50	Indiana Pipe Line	$1Q	Nov. 15, 26	150	63	63	61½	61½	0
35⅜	22⅛	35¼	28¾	(sh)	7,118,138	N.P.	International Petroleum	25c	Nov. 15, 26	13,500	32⅜	32½	31¾	32¼	0
25⅝	16½	20⅝	12½	$	6,362,500	$12½	National Transit	25cQ	Dec. 15, 26	1,500	13⅝	13⅞	13⅝	13¾	+ ⅛
79	49¼	51½	27⅜		5,000,000	100	New York Transit	.....	July 15, 26	100	31¾	31¾	31¼	31¼	0
88	67½	80½	64		4,000,000	100	Northern Pipe Line	$3S.A.	Jan. 1, 27	100	72	72½	72	72½	+2½
75¼	60¼	67¾	55¾		60,000,000	25	Ohio Oil Co	50cQ	Dec. 15, 26	5,100	61	61	59⅝	59⅝	— ¼
44½	19	24¾	15		10,000,000	25	Penn Mex Fuel	.....	May 21, 25	700	17	17	16½	17	— ¾
65½	45⅞	60¼	48		60,000,000	25	Prairie Oil & Gas	50cQ	Nov. 30, 26	9,200	53⅛	53¼	52½	52¾	— ⅜
129¾	106	137½	122¼		81,000,000	100	Prairie Pipe Line	$2Q	Oct. 30, 26	3,350	132	135	132¼	134½	+2½
254	200	220	184½		4,000,000	100	Solar Refining Co	$5S.A.	Dec. 20, 26	10	195	195	195	195	—1
103	63	74½	21		10,000,000	100	Southern Pipe Line Co	.....	Mar. 1, 26	200	24	24	24	24	0
47⅛	45	50	34½		20,000,000	25	South Penn Oil Co	50cQ	Dec. 31, 26	2,900	38½	40	38	40	+1¾
84	50	56½	49		3,500,000	100	South West Pa. Pipe Line	$1Q	Dec. 31, 26	.....	.....	.....	.....	.....	.....
70¾	59½	70½	60½	$	223,756,258	$25	S. O. Indiana	62½cQ	Dec. 15, 26	58,300	69	70¼	69	70¼	+1¼
46	30⅛	36½	16¼		8,000,000	25	S. O. Kansas	.....	June 16, 24	600	19½	20	19½	20	+ ½
137	114¾	134⅜	108		16,864,434	25	S. O. Kentucky	$1Q	Dec. 31, 26	1,400	119½	120½	119	119¾	+ ¼
.....	.....	51⅜	42		4,518,000	25	S. O. Nebraska	62cQ	Dec. 20, 26	600	46½	47¾	46½	47½	+1
.....	.....	.....	.....		.....	....	S. O. N. J. w. i.	.....	.....	14,900	37¾	39½	37¾	39⅞	+1⅝
369	338	365	288		14,000,000	100	S. O. Ohio	$2½Q	Jan. 1, 27	360	341	353	341	353	+11
123	116	122	117		7,000,000	100	do pfd	$1¾Q	Dec. 1, 26	50	118¼	119	118¼	118¼	+ ¼
27	12	23	15		1,722,931	25	Swan-Finch Co	.....	Nov. 1, 19	.....	.....	.....	.....	.....	.....
109½	80⅛	112	90¼		61,919,950	25	Vacuum Oil Co	50cQ	Dec. 20, 26	8,400	96	98	96⅛	97¾	+1¾

New

INDEPENDENT OIL BOOKLET

This Booklet contains description of properties, latest financial statements, dividend records and other important information regarding this group of companies.

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Specialists in Standard Oil and Miscellaneous Oil Securities

25 Broad Street New York

New York Curb Market

1925 High	1925 Low	1926 High	1926 Low	Par Value	Stocks	Transactions week ended Jan. 14 Sales	First	High	Low	Last	Ch'ge
11½	2¼	14½	4	$ 5	Amer. Maracaibo	26,700	6⅞	6⅞	6⅜	6½	— ⅜
8¾	5	8¾	5¾	$10	Arkansas Nat. Gas.	700	7⅛	7½	7⅛	7½	— ⅛
.....	.....	19⅜	14⅜	N.P.	Beacon Oil	6,000	19⅝	19⅞	19⅛	19⅜	— ⅞
47½	38	83½	82	$25	British-American	.....	.....	.....	.....	.....	.....
10¾	2¾	283⅛	9¼	25c	Carib. Syndicate	64,600	26½	28¼	25	25⅜	—1¼
43	35	51	37½	$20	Cities Service	22,500	50½	51⅞	50½	51½	+ ⅞
85⅛	80¼	92½	82¾	100	do pfd	2,400	91¾	91¾	91⅜	91½	— ¼
8	7¼	8⅜	7⅜	10	do pfd. B	200	8¼	8¼	8¼	8¼	0
21⅜	17½	25¼	19	10	do bankers' sh	200	25¾	25¾	25¾	25¾	+ ⅛
2¾	.60	3½	1¾	N.P.	Colombia Syndicate	107,500	2 13/16	3 1/16	2⅝	2 13/16	+ 1/16
15	8¼	16	10	N.P.	Creole Syndicate	39,500	13⅛	14¼	13	14¼	+1⅛
12¼	5	7¾	1⅝	N.P.	Crown Central	5,200	2⅞	3	2¾	2¾	— ⅛
7	2	4	1 1/16	N.P.	Derby Oil & Ref	.....	.....	.....	.....	.....	.....
27	10½	19	15	N.P.	do pfd	500	10	12	10	11	0
.....	.....	2¼	.60	....	Euclid Oil	.....	.....	.....	.....	.....	.....
6	1⅜	7½	2½	N.P.	Gibson Oil	23,300	3¼	3⅝	2⅞	3⅝	+ ⅛
3¾	1⅜	2	.63	N.P.	Gilliland v.t.c	400	1⅜	1⅜	1⅜	1⅜	+ ⅛
98½	63½	98	82	$25	Gulf Oil Corp	4,900	93½	96½	93½	95⅛	+3
5⅞	2¼	4	1	N.P.	Kirby Petroleum	600	1¼	1¼	1¼	1¼	0
18	6	12¼	5¾	N.P.	Leonard Oil & Dev	13,200	9	9½	8¾	8⅞	— ⅛
25⅞	18	27	20	N.P.	Lion Oil Refining	3,000	24¼	25	24¼	25	+ ⅝
.....	.....	46	31½	$25	Lone Star Gas	1,900	43⅞	43⅞	41	41	—2⅝
4¼	1¾	3⅜	1½	N.P.	Marland of Mexico	.....	.....	.....	.....	.....	.....
5¾	.50	5½	1⅞	$10	Mexican-Panuco	9,300	3	3	2⅞	3	0
2	1	1¾	1¼	1	Mountain & Gulf	200	1¼	1¼	1¼	1¼	— ⅛
26¼	18⅜	26	22½	10	Mountain Prod	6,100	25¼	25¼	25⅛	25¼	0
6¾	3⅝	6¾	5	5	New Bradford	500	5½	5½	5⅜	5½	+ ⅛
24¾	16¼	11¾	2	10	New England Fuel	.....	.....	.....	.....	.....	.....
19⅜	6¼	17	9⅜	1	New Mex. & Ariz	1,500	12⅞	12⅞	12½	12½	— ⅜
12½	8¼	17	8	$5	New York Oil	400	10⅛	10⅜	10	10	— ⅛
87	14	86	84¼	$5	Ohio Fuel Corp	.....	.....	.....	.....	.....	.....
.....	.....	9⅞	6	N.P.	Pandem	9,100	8⅜	8¾	8¼	8¼	— ⅛
2½	.90	2¾	.20	N.P.	Peer Oil Corp	.....	.....	.....	.....	.....	.....
28¼	16	22¾	12	$10	Pennok Oil	1,000	12½	12½	12½	12½	— ⅛
44½	16	88	14⅜	$5	Red Bank Oil	.....	.....	.....	.....	.....	.....
33⅓	19	28¾	12	N.P.	Reiter-Foster	3,600	14	14¼	13⅝	14	0
.....	.....	27½	22	$25	Richfield Oil w.i	300	26	26	26	26	+3⅛
9½	3½	7½	4½	N.P.	Ryan Consolidated	4,100	5⅝	7	5⅝	5⅝	0
9¾	6⅛	10	7½	$10	Salt Creek Cons	300	7⅞	7⅞	7⅞	7⅞	+ ⅛
85	24	86	26⅞	10	Salt Creek Prod	2,800	31⅛	31⅜	30½	30¾	— ⅛
8⅞	1	4⅜	1⅛	5	Savoy Oil	.....	.....	.....	.....	.....	.....
13¾	9	27	7⅜	10	Tidal Osage	2,700	22¼	25⅜	22¼	24½	+2⅛
10⅞	8	25¾	8¼	10	do non-voting	8,800	22	23	21¾	21¾	— ⅜
.....	.....	27	20⅞	N.P.	Tide Water Assoc	19,900	21¾	23	21⅝	22⅞	+1¼
.....	.....	99¼	93¾	100	do pfd	1,800	93¾	95¼	93¾	95¼	+1
4⅞	1¾	8	4¼	5	Venezuelan Pet	5,300	6¾	6⅞	6⅝	6¾	— ⅛
.....	.....	29¼	23½	N.P.	Warner-Quinlan	100	26	26	26	26	0
31¾	22⅛	36⅛	22	N.P.	Wilcox O. & G. new	3,100	28½	29	28½	28¾	+ ⅛
7	3⅞	9½	4⅜	$ 1	Woodley Petroleum	700	7⅛	8	7⅛	8	+1⅛

*New High †New Low ‡Ex-Dividend.

Carib Synd. to Offer More Subshares

NEW YORK, Jan. 15.—Directors of Carib Syndicate soon will offer stockholders 25,000 additional subshares at $23.50 each in the ratio of one for each 20 subshares held at present. The subshares which have a par value of 25 cents each are selling on the New York Curb Market at more than $25. There are 500,000 subshares outstanding representing 5000 shares of common stock of $25 par value each.

The subshares are non-voting, the voting power of the common stock they represent being in the hands of three trustees, none of whom is on the board of directors.

The syndicate owns a 25 per cent interest in the Colon Development Co. whose principal asset is the Vigas concession in Venezuela and a quarter interest in the Colombian Petroleum Co., owner of the famous Barco concession in Colombia. It also owns a 60 per cent interest in the Equatorial Oil Co. which has acreage between the Tropical Oil Co. De Mares concession and holdings of the Leonard Oil Development Co. Royal Dutch-Shell owns the remaining interest in the Colon company and a Gulf Oil Corp. subsidiary the remaining interest in the Colombian company.

S. O. OHIO TO SPLIT STOCK

CLEVELAND, Jan. 15.—Stockholders of the Standard Oil Co. at their annual meeting Feb. 14 will vote on a proposal to reduce the par value of the common stock from $100 to $25 a share and issue new stock on a basis of four for one of the old shares. The company has outstanding $14,000,000 common stock.

PITTSBURGH, Jan. 15.—Crescent Pipe Line Co. which is being liquidated, has completed removal of its 274 miles of pipe line from western Pennsylvania to the Atlantic seaboard.

Cleveland Stock Market

Jan. 14

	Par	Bid	Asked	Last Sale
Canfield Oil Co	$100	110	.....	110
do pfd	100	.....	100	95
Fred G. Clark Co	10	.....	3¼	3¼
National Refining Co	25	40	41	41
do pfd	100	130	.....	132
Paragon Refining Co	25	7	8	7¼
do pfd	100	65	75	70

xEx-dividend

OIL DIVIDENDS

	Amt.	Payable	Stock of Record
Louisiana Oil Ref. pfd. q.	$1.62½	Feb. 15	Feb. 1
Prairie Oil & Gas q	50c	Feb. 28	Jan. 31
Royal Dutch	$1.33¼	Jan. 28	Jan. 14
Sinclair Cons. pfd	$2	Feb. 15	Feb. 1
Shell Union pfd. q	$1.50	Feb. 15	Jan. 26
Skelly Oil q	50c	Mar. 15	Feb. 15
S. O. Ohio pfd q	$1.75	Mar. 1	Jan. 28
Tide Water Assoc. q	30c	Feb. 1	Jan. 15

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Market Section

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Davis Welding & Mfg. Co. Inside Back Cover
Dayton Air Compressor
Dayton Pump & Mfg. Co.
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Ohmer Fare Register Co.
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Page Steel & Wire Co.
Pease Co., C. F.
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